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I

TEACHING ETHICS IN THE HIGH SCHOOL

It would be, I am inclined to believe, comparatively easy to bring arguments in support of the conclusion that there has never been such a widespread interest in teaching ethics in the schools as at present; or of the conclusion that there is a general consensus among experts against teaching it. I am not going to try to draw out this antinomy, but I want to run over two or three of the reasons in favor of the latter conclusion. One is the pretty widespread conviction that conscious moralizing in the schoolroom has had its day—if it ever had any; that the mistake has been made of identifying ethical instruction with the conning over and drumming in of ethical precepts; that the most efficient moral teaching is that afforded by the constant bearing in upon the individual of the life-process of the school; that set moral instruction other than grows directly out of occurrences in the school itself, or other than that which calls to the attention of the pupil the meaning of the life of which he is a part, is pretty sure to be formal and perfunctory, and to result rather in hardening the mind of the child with a lot of half-understood precepts than in helpful development. And if moral instruction is conceived not so much as set instruction in regulations for conduct, as cultivation of the child's own conscience, there is the danger of cultivating in some a morbid conscientiousness always prying and spying into the state of feelings, instead of allowing those feelings to develop in their normal intimate connection with action; and in others there is the danger of creating

offensive prigs, possibly hypocrites. With all this I agree; indeed, I do not think that the movement against teaching ethics in the schools has gone as far as it is likely to go, or as it should go—*provided*, that is, *ethics is conceived in this spirit.* Some of the books which the last year or two have produced, and which are being gradually urged into the schools on account of the great revival of interest in the moral side of school work, seem to me to be based upon an utterly wrong idea of ethics—upon the assumption that if you can only teach a child moral rules and distinctions enough, you have somehow furthered his moral being. Against all this, we cannot too often protest. From the side of ethical theory, we must protest that all this is a caricature of the scientific method of ethics and of its scientific aims. From the standpoint of practical morals, we have to protest that the inculcation of moral rules is no more likely to make character than is that of astronomical formulæ.

If this reaction, however, is simply against all instruction in ethical science in the schools; if it does not rather ask how right instruction in morals may be substituted for wrong, I think we shall not get its full benefit. Rightly read, it is a movement against a false view of morals and a false theory of ethics; the danger is that we are likely to interpret it as meaning that the ethical theory in question may be all right in itself, but is out of place in the schools.[1] At all events, I wish to submit a certain conception of ethical theory upon which that theory seems to me thoroughly teachable in the schoolroom; not only teachable, indeed, but necessary to any well-adjusted curriculum. It is generally admitted, for example, that there has been a talking about number in the school instead of intelligent use of it; that there has been altogether too much attention paid to the examination of the logic of quantity, in the abstract, and altogether too little logic in the attitude of the pupil's mind toward quantity. The one who should, on account of this, urge that mathematical relations,

[1] The most valuable article which I have had the pleasure of reading upon this subject, Professor Palmer's in the *Forum* (Vol. 14, p. 673), does not seem to me altogether free from this danger.

in their reality, had no place in the schools, would be quite on a par with the one who draws a similar conclusion in ethics, because of the similar abuse there. The greater the evil resulting from a false conception of the nature of number or of moral action, the greater the demand for introducing instruction based on a right idea.

Ethics, rightly conceived, is the statement of human relationships in action. In any right study of ethics, then, the pupil is not studying hard and fixed rules for conduct; he is studying the ways in which men are bound together in the complex relations of their interactions. He is not studying, in an introspective way, his own sentiments and moral attitudes; he is studying facts as objective as those of hydrostatics or of the action of dynamos. They are subjective, too, but subjective in the sense that since the pupil himself is one who is bound up in the complex of action, the ethical relations have an interest and concern for him which no action of fluid or of dynamo can possibly have. While this subject-matter should be taught from the lowest grade up, I shall choose an illustration of the mode of teaching it better adapted for high schools, or, possibly, the grades just below the high school. In making it, I need hardly say, I suppose, that the method indicated is simply a way; an illustration of the character and spirit of ethical teaching, rather than a method.

Let the teacher, at the outset, ask the pupils how they would decide, if a case of seeming misery were presented to them, *whether* to relieve it and, if so, *how* to relieve. This should be done without any preliminary dwelling upon the question as a "moral" one; rather, it should be pointed out that the question is simply a practical one, and that ready-made moral considerations are to be put one side. Above all, however, it should be made clear that the question is not what to do, *but how to decide what to do.* As this is the rock on which the method is likely to split, let me indicate the force of the distinction. Anyone who is acquainted with the methods in which the well-organized Associated Charities do their work know that they never discuss giving relief to some-

one on the basis of abstract principles of charity. They construct, from all available data, an image of the case in question, and decide the particular question upon the basis of the needs and circumstances of that particular case. Now the whole object of the method I am bringing forward is not to get children to arguing about the moral rules which should control the giving of charity—that is a relapse into the method of precepts against which I have protested. The object is to get them into the habit of mentally constructing some actual scene of human interaction, and of consulting that for instruction as to what to do. All the teacher's questions and suggestions, therefore, must be directed toward aiding the pupil in building up in his imagination such a scene. To allow them to discuss *what* to do, save as relative to the development of some case, is to fall back into the very moral abstractions we are trying to avoid. So when children begin to argue (as they are almost sure to do) about the merits of some proposed plan of action, care must be taken not to let them argue it in general, but to introduce their ideas into the case under consideration so as to add new features and phases. The whole point, in a word, is to keep the mental eye constantly upon some actual situation or interaction; to realize in the imagination this or that particular needy person making his demand upon some other particular person. It follows from this, of course, that the line of illustration chosen, that of charity, has no value in itself; it is taken simply as a basis with reference to which to get the child to fix his mind carefully upon the typical aspects of human interaction. The thought which underlies the method is that if instruction in the theory of morals has any practical value it has such value as it aids in forming, in the mind of the person taught, the habit of realizing for himself and in himself the nature of the practical situations in which he will find himself placed. The end of the method, then, is *the formation of a sympathetic imagination for human relations in action;* this is the ideal which is substituted for training in moral rules, or for analysis of one's sentiments and attitude in conduct.

I have tried the method with a class of college students,

and a rapid summary of questions which one member of the class or another said he would put in order to decide what to do may give an idea of the character of the ethical material thus placed at the disposal of the teacher. Find out whether the want is real or assumed; investigate its character, *e. g.*, whether immediate, as for food, or remote; whether material or spiritual. Inquire into causes of want: lack of energy, incapacity, accident, sickness, vice as intemperance, loss of work. Search out the past record of individual, his station in life; his family, neighbors, cronies; power of work, any special skill. Find out his character and temperament so as to adjust a method to that. Examine into one's own needs and powers, the demands upon one's own time and money, etc., etc. These are selected from the answers given in the first day; of course, further discussion and question would evolve multitudes more.

We now have our teacher with his ideal and his material more or less definitely before him. How shall he deal with it? The answer in the general is plain. Deal with it so that in and through the special situation chosen the pupil shall have gradually brought home to him some of the *typical features of every human interaction. These typical features are the content of ethical theory:* that is to say, there is no ethical analysis, however advanced and however scientific, which can do more than discover the generic phases of human activity in society. In order to carry out this plan, the teacher should unite, it seems to me, a pretty definite idea of the typical phases which he wishes to bring out, with great freedom in detail. Unless he has the latter, he will fail to take due advantage of the suggestions arising from the pupils' answers; will fail to be alive to their interests and, in general, will be likely to relapse into a formal and rigid mode. But if the freedom is carried so far that the teacher does not have an idea of the goal at which he intends the pupils shall bring up, the work will be so random that its object, the realization by the pupil of human action in its typical features, will be lost.

One of these typical phases is the proper place of the emotions in conduct. In these days, the attacks upon "indiscrimi-

nate giving" have permeated a good way, and it is safe to say that some pupil will urge the need of not giving from the mere impulse of the moment. This will open the way for a discussion of the part to be played by sympathy, benevolent impulses, etc. Any teacher who is even moderately acquainted with the literature of Charity Organization will have no difficulty in showing the necessity of not giving way to the feelings of the moment. He can show that to do so is not to act for any moral or practical reason, but simply to gratify one's own feelings—and that this is the definition of all selfishness; he can show that, by encouraging idleness and beggary, it does an injustice to society as a whole, while it wrongs the person supposably helped, by robbing him of his independence and freedom. Now all this, I submit, is valuable in itself; treated by a teacher who knows his business (or who is even interested in it, if he does not know it) it can hardly fail to rank in importance with any subject taught in the high school. But it is more than valuable in itself. Any pupil who has worked out these facts day by day for weeks, for a year, who has learned what careful study of conditions and weighing of expedients is necessary to treat many a case of relief, is prepared to understand the true meaning of the term "motive" in ethical discussion better, far better, I submit, than nineteen-twentieths of our college students who have analyzed it at large. The pupil is in position to understand what the relative place and bearing of both impulse and reason in conduct are, and to understand the meaning of those theories which attach such importance to the reasonableness of action.

Another typical phase of all action which the pupil will be in a position to appreciate after carrying on for some weeks a study of this kind, is that of the inter-relation of all individuals. When he sees the stress upon the social relations of the person to be helped, upon the dependence of his family upon him, upon the fact that he is out of work, possibly because of a strike, possibly because of speculative movements five hundred miles away, possibly because of some caprice of fashion; when he realizes the pains which must be taken in dealing with him

not only not to weaken his own self-respect, but also not to weaken the ties of neighborhood unity—when he sees all this, and a multitude of other details which will develop in the course of the discussion, the interdependence of interests in a single action (though he never hears the phrase) cannot but become a vital fact.

Since, in view of the breakdown of so many of the older motives for morality, the youth of the next generation must more and more draw their inspiration from a realization of the unity of the interest of all in any one and of one in all, there is no need to dwell upon the practical bearing of this.

These two factors of ethical action, namely, the place of impulse and of intelligence, and the multitude of relations to be considered and focused in any human action, may, I think, be taught to all youth as far advanced as the high-school grades. How much further the analysis is carried will have to depend upon the maturity, previous training, and home surroundings of the pupils. In some cases, it might be possible to carry the study of this or some other typical case far enough to indicate the nature of moral law and obligation, and this without detriment to the concreteness of the study. Or, again, it might be possible to introduce a study of the various ideals currently proposed for conduct and test them by application to the problem under consideration. But all this would be a matter of detail. I am concerned only to point out in general in what spirit ethics may and should be taught in the schools, and to suggest an outline of a method for realizing this method in the higher grades. Above and beyond any formal analysis is the result in the way of a new interest in, and a new sense for, human relations in action.

I may be called on to say something of the practicability of introducing this study into the high school; I may be reminded of the already crowded state of the curriculum, and asked to show the interrelations of this study to others. I should only be expressing what I myself feel, if I were to say that if other studies do not correlate well with this one, so much the worse for them—they are the ones to give way, not it. For it is not

the study of ethics I am urging; it is the study of *ethical relationships*, the study, that is, of this complex world of which we are members. Where there is one reason for the ordinary student to become acquainted with the intricacies of geometry, of physics, of Latin, or of Greek, there are twenty for him to become acquainted with the nature of those relations upon which his deepest weal and woe depend, and to become interested in, and habituated to, looking at them with sympathetic imagination. And so far as the fetich of discipline, or the culture-value of studies, or anything of that sort, is concerned, one need have no fear that the world of ethical activities will not afford scope for all the powers of analysis, of interpretation, and of observation, of which any pupil may be possessed. The subject here is so important, the mental power brought into play in dealing with it is of such quality and kept at such pitch, that, ultimately, the subject-matter of ethics must furnish the measure for other studies and not *vice versa*. But it is not necessary to carry the argument to this extreme. Except through a study of ethical material from the standpoint here outlined, and with the ideal here suggested (though not, of course, necessarily with just the material I have employed), it is impossible for the pupil to get the full meaning either of literature or of history—the two studies of whose future we may be certain, happen what may to the others now entering into our curricula. Such a study of ethics as I am pleading for will play at once into the study and appreciation of both literature and history, while the latter will constantly introduce new material, new problems, new methods for the ethical imagination—the imagination that is occupied with making real for the individual the world of action in which he lives.

No one can be more conscious than I am myself of the apparent gap between the meager outline of the study I have presented and the claims made for it. There is, however, in my own mind no fear that I have exaggerated the importance of a study of ethics conceived in the spirit I have indicated, and I am glad to *seem* to exaggerate if the seeming will lead any to question for even a moment the highly formal character

of high-school instruction as at present administered; and to entertain, if but for a moment, the possibility of a time when the central study shall be human life itself; a time when science shall be less a quantity constant in itself and more a method for approaching and dealing with this human life; a time when language and literature, as well as history, shall be less realms of thought and emotion by themselves and more the record and the instruments of this human life.

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II

MENTAL DEFECT AND DISORDER FROM THE TEACHER'S POINT OF VIEW (II)[1]

If one omits from consideration the important but highly technical topics of Idiocy and Imbecility, one may say that insane children, in the strict sense of the word, are very rare. But, on the other hand, childhood is a great region of life for the sprouting and first springing of the young weeds of future mental disorder. The full-grown maladies of the asylums need older brains to live in; but child psychology is often full of elements from which future troubles may come. It therefore behooves the teacher of young children to be, if possible, psychologist enough to know, and by sight too, those symptoms of instability of brain which are so common in early years. Many of these symptoms are relatively insignificant in themselves, if isolated, and one may then safely leave time and growth to weed them out. Special groupings of such symptoms, however, may be at the least very suspicious facts, such as no teacher who by chance learns of them should ignore. You must never forget then that it is the grouping, and not the elementary defect, which is in childhood psychologically significant. Let me already try, even without time for a more careful psychological analysis, to illustrate this distinction, and to show how a group of mental symptoms may be decidedly important, even when the single factors are relatively insignificant.

There is a very familiar type of elementary pathological mental symptoms, which occurs in many sorts of disorder, both in children and in adults. I refer to what is technically called an Hallucination of one of the special senses. An hallucination of the special senses is a false external perception to which nothing outside of our own organisms really corresponds. A patient in a fever delirium falsely sees, for instance, people

[1] Begun in the October issue, VI: 209.

or animals or evil spirits in the room about him. Another patient, suffering from a complicated delusional insanity, hears the voices of mysterious adversaries making comments upon his fortunes and his character. Now in adults occasional and single hallucinations may occur, a few times in a lifetime, without implying anything of note. But, on the whole, frequent and massive hallucinations, occurring in an adult, are always likely to have a pretty grave import, sometimes with regard to his temporary nervous condition, sometimes with regard to his more permanent mental disorders.

In the life of a child, on the contrary, hallucinations of the special senses occur more frequently, and may have a far less significance than in the adult. On the wide borderland of sleep, hallucinations of vision, in some children, may be for a while almost or quite normal incidents, and may have to be judged as such.

Here, for instance, is an apparently quite healthy child, five or six years old, who nightly, as soon as he is put to bed, and before he has shown any other sign of sleepiness, begins to talk of the various things that he sees about him. These things are largely unreal, but are on the whole amusing to him. He prefers to have a light left in his room to go to sleep by; but in case the light is left, he shows no alarm at being alone. He falls asleep slowly, but quietly. The waking dream easily glides over into the sleeping dream. He sleeps all night well, and makes little of the experience next day. Here are evidently hallucinations of visions on the borderland of sleep, but still very distinct from the true dreams of normal sleep. Before the child in the least loses his consciousness of his actual surroundings, he begins to be aware of many unreal surroundings. Horses, women in white dresses, possibly angels, or fairies, derived from picture books—such is the stuff of his waking dream. You can sometimes be sure from his speech that these experiences are to him quite real and irresistible facts, and are in no wise waywardly invented topics of idle talk. The experience, then, is one that, in a person so nearly wide awake as the child is, would be more or less pathological at any other time

of life. But the case, as described, may be one practically indistinguishable in all other respects from normal child life. Here is a sensitive but so far not at all a disordered brain. In general, one may say that even a very healthy childhood is a perfect curiosity shop of elementary mental symptoms which, in an adult, might be grave, but which, if unsystematized, may have little importance for child life.

But here, let us say, is another child, of more unstable and flighty general temperament. He too has nightly hallucinations on the borderland of sleep, but they are painful ones: threatening figures, tall black men, fierce dogs. He objects to being left alone at all at this time. Later in the night he often wakes with the well-known and characteristic nocturnal terror of the nervously burdened child. This little nervous storm begins with a screaming fit, followed by a time in which the child remains long stubbornly half awake, with wide open eyes, complaining excitedly of what he sees, namely crawling or otherwise painfully moving objects, large or small. As to temper, he is at such times either ragingly fierce, rebellious, intractable, or else is overwhelmingly profuse in his tender demonstrations of agonized affection. He talks wildly, or even becomes wholly inarticulate in his fright. Slowly he comes to himself and quiets down again. The next day he may have wholly forgotten the incident. Such scenes are fairly common in his life, even when other signs of specific ailment are absent. The child's doctor looks for irritating causes of a physical sort and perhaps finds nothing definable.

Here one already has a relatively pathological case of cerebral excitability—though not yet necessarily a case that is immediately grave; but in considering the chances that the child will outgrow this disorder, one must now look for other signs of similar brain conditions. If this is a decidedly burdened child, such additional signs may, for example, ere long appear in the form of frequent, definite nightmares of a fixed type. These mean an already somewhat systematized and organized mental enemy, although a good many reasonably healthy people have had such bad nervous

habits, ever since childhood. If such nightmares retain a peculiar meaning during the child's waking life, that is also a matter to be noted. Painfully insistent thoughts of possible calamities may also harm the child's waking life, and be exaggerated every night at bedtime. Of these a favorite example is the dread of some time being buried alive—a dread which somehow gets suggested to certain sensitive children astonishingly early, and which remains, as an inconvenient "segmented" nervous habit, to vex the souls of a considerable number of very sensible adults. Other such insistent thoughts common in childhood are the dread lest one's bed should catch fire, and the feeling as if a wolf or other wild animal were under the bed, perhaps about to bite one's toes. In considering all such inconveniences, all such capriciously "segmented" bad habits of the sensitive young brain, the important question of course is, not whether they merely chance to exist, but how well they are grouped, systematized, and how large a part they play in the growing life. Do they really poison it? Are they more than innocuously segmented suggestions? Do they organize themselves, and form a little system inimical to the general peace? Do they recur again and again in the same shape? If they have these two latter characters of organization and fixed recurrence they are important specimens of the properties of just these nervous tissues, and they need watching accordingly.

The really burdened child, moreover, the child inclining to what is called the "degenerate" constitution, often adds to numerous inconveniences of this sort various physical signs of abnormality. He shows also a general predisposition to grow very easily delirious whenever he has a light passing physical ailment. He may early appear as a born pessimist, brooding much over the sorrows of life, long before he has any clear ideas of what his brooding really means. If to all the foregoing he adds very active and precocious wits, and any noteworthy signs whatever of general physical instability, well, then, one has probably on one's hands a case where careful mental treatment is of the greatest importance, and where such care will be needed for many years. To be sure, this may be really a

child of promise. He may in the end turn out to be a man of extraordinary ability. But none the less is he likely to prove, to the end of his days, a decidedly burdened person. For high ability and heavy burdens often go together. And now what he needs, in addition to the physician's occasional care, is what no physician can undertake to give him, namely, a careful and continuous mental treatment and training, deliberately adapted to his special case, by persons who, through instinct and study together have learned in the psychological world to know a hawk from a handsaw. Of course it will not do to prejudge any case from a few symptoms. But I speak of warnings; and I say that whenever a group of morbid mental symptoms has begun to be systematized and recurrent in a child's life, then his advisers, without being foolishly frightened, must beware.

In estimating such a case two well-known considerations may also be borne in mind, although it is not well to be very dogmatic as to the force of either of them. The first consideration is that a bad nervous heredity, where the family history proves its presence, is an important factor in determining the future of such sensitive cases. This consideration is important, but, as I say, it must not be misused by an adviser in too dogmatic a spirit. Nobody is to be condemned to ruin merely because his family has a questionable nervous history, even if he himself shows in childhood signs of decided instability. Nervous heredity often takes very Protean forms. The descendants of the nervously burdened need not develop the particular disorders of their ancestors, but may suffer in decidedly new ways, which may prove to be either less or more manageable. Nervous anomalies, moreover, like other variations, often tend, in heredity, to "run out," and to disappear in a healthy mediocrity. In other cases, the descendants of the nervously burdened show their heredity chiefly in the form of extraordinary ability of mind. The hereditary chances are, then, on the whole, in a great number of cases, fairly balanced. I have in mind a case of a family of six children, brothers and sisters, whose heredity, on both sides, was decidedly neurotic, and whose early care and education were highly capricious and

accidental, just as often happens in such families. Of the six children, three have proved (up to the present time, and in so far as I have been able to learn) apparently quite normal, and have developed into marked and very individual, but decidedly good personal types. Just three, however, growing up under the careless and unwise conditions of their early life, turned out abnormal cases; but they were of highly contrasted sorts—one insane, one harmlessly degenerate in wits, one brilliant but hysterical. Such is this world of chance, even under unfavorable educational conditions. The lesson is: respect heredity, but never despair on account of it, since its caprices are simply endless.

The second well-known consideration is that great precocity of brain is a suspicious functional anomaly. Suspicious, I say, but only suspicious—no certain sign of future disorder. Biographies show that a very respectable number of healthy and distinguished persons were precocious in childhood. Medical literature shows that many precocious children later go wrong. The obvious result is that great precocity in many respects demands especial caution in training, but calls in itself for no foolish despair. In such cases watch narrowly, but not at all hopelessly.

THE BORDERLAND OF SANITY IN YOUTH

If one passes to the period of youth, one gets to a time when the development of definable insanities is very much more common. The mind is now well enough formed to be able to go markedly astray. The anomalies of the hereditarily burdened begin really to come to the front. An adviser has to deal, in borderland cases, with defects, which whether grave or light, are much more describable. Some of the more elementary mental disorders, such as hallucinations of the special senses, become, in borderland cases, less frequent than in earlier years. In case these rarer elementary derangements appear in the youth, they have, however, a relatively graver import than in childhood. In general, however, even the casual observer is, in case of the youth, more likely to have his

attention first attracted by the often rather subtle signs of deranged mental habits than by the more dramatic, but more elementary symptoms that usually excite our sympathy for the burdened child. The anomalous youth has more of the arts of concealment. Meanwhile, however, he has long trains of thought and elaborate habits of conduct that are not what one ought to find at his age. These false systems of mental life must be comprehended before he can be helped. In one case a youth may be even excessively conscientious, and very well-meaning, but somehow his conduct is seen to be hesitant, painful, ineffective. Another burdened youth is exceptionally perverse and willful. Or yet another may appear to be helplessly plastic, and without will of his own. All of these disorders may of course coexist in the same brain, and may alternate or combine in exhibiting themselves to the observer. Morbid stubbornness often goes along with a helpless plasticity in the presence of certain temptations, companionships, or moods. Morbid conscientiousness is often linked to serious defects of conduct. Mental defect often first exhibits itself in the form of an incomprehensible doubleness or multiplicity of life, a "segmentation," as we have already called it, whereby many mutually contradictory tendencies find room in the partially disorganized habitual life of one organism, and many "segmented" selves are present instead of one Self.

But now comes the real problem of the teacher as it appears in case of youth. One has before him either such an industrious and conscientious or such a perverse or self-contradictory being. One sees, in any case, that one's pupil is going wrong. Perhaps he broods, lives too much alone, works feverishly, means well but fails, takes no good physical care of himself, profits little by ordinary advice, shuns companions and healthy sport. Or again, he is rebellious, disposed to bad company, weak, wayward, malicious. Now one asks, what shall I do for this youth? Is he merely a normally constituted person making bad blunders, or is he a sick man in need of treatment? Is he a fool, or a sinner, or a patient? Shall I trust to my routine and to life to teach him the right; or shall I regard him as an

exceptional being, needing tender care? Am I to train him to hard but wholesome service, or am I to seek to cure him as one diseased? Ought I to upbraid him or to nurse him? Ought I to try to urge him out of his faults or to appeal forthwith to the physician? How am I to define to myself what constitutes the morbid as distinct from the naughty in his conduct? How am I to distinguish between the crudities of defective moral education and the abnormities of real mental disorder?

As we have said, in estimating the degree to which the nervous mechanism is deranged, we have to bear in mind the purpose that this mechanism normally accomplishes, and the processes that are necessary to such normal accomplishment. Since the brain is busy, like the rest of the nervous system, in directing our motor adjustments to our environment, it follows that when you analyze the state of a man's mind you ask: (1) What are his habits of action? and (2) Why has he formed these habits? If it is defect that you are considering, you must then carefully seek to distinguish mere defects of sense organs, or physical burdens that limit a man's powers of motor expression, from defective habits of his higher nervous centers as such. Deafness or myopia, or even mere awkardness may at first sight be easily confounded, by superficial observers, with mental disorder. And as to the defective habits of the brain itself, you must again distinguish between defects due to mere lack of training (such as our above-mentioned quite normal and commonplace inability to speak a foreign tongue) and such defects as reveal the characteristically bad quality of these nerve centers themselves, when they are set in function under normal conditions of training. The boy trained to theft from infancy might or might not prove to be a morbid subject; but his thieving habits would of themselves prove little. The well-trained boy from a good home, who at the earliest chance stubbornly runs into gross crime, is presumably likely to be found a mentally defective person.

Furthermore, in examining the mental condition of any given person for the sake of getting results as to the foregoing

problems, one must of course also bear in mind the successive grades of mental facts that can be analyzed. These are,[1] as we have already in general seen in our previous study: (1) Sensations; (2) Feelings, pleasures, pains, interests, of an elementary sort, together with general emotional states such as cheerful or gloomy moods; (3) Perceptions, involving both present sensations and recalled facts of sensation; (4) Mental Images, or groups of recalled sensations as such; (5) General Ideas of the classes, qualities, and abstract relations of things; (6) Elementary Impulses to Action, such as form the basis of all higher voluntary processes; (7) Organized series of General Ideas, or trains of Thought and of Reasoning; (8) Organized series of impulses to action, such as make up the Will in its higher sense; (9) Organized types of Emotion of higher grade, such as appear in a man's general estimates of life, of himself, and of his fellows. It is seldom possible or even desirable to examine into all these classes of mental states. Nor is my present grouping meant to be of more than tentative value. The reason for drawing such distinctions is that the condition, normal or defective, of the processes in any of these groups, is by itself positively significant, for the whole mental state as such, in proportion to the degree to which organized central functions are involved in the processes in question. Defective sensations may or may not indicate abnormal central conditions of importance. Genuine abnormities of intellect or of will always must indicate relatively grave central defect. On the other hand, one must never forget that, unless one carefully takes into account both the previous training and the merely momentary emotional condition of the person under consideration, it will generally be quite impossible to distinguish clearly between a mere defect of education, or a vagary of mood, and a truly abnormal defect of central habitual function. To illustrate from the effects of education: A professional astronomer of modern training who should suddenly announce his conversion to the Ptolemaic theory, would

[1] I restate the classes of mental facts in a somewhat different order, closer to the order in which, as will soon appear, it is practically convenient to inquire into them.

probably be insane. But for some, though indeed not for all of the ancient astronomers, to have first conceived and then accepted, in their day, the Copernican theory, would very possibly have involved an alteration of their own mental processes which would not have been easily consistent with sanity.

For the various possible disorders of the foregoing classes of mental processes, there exist, in several cases, well-recognized names. False Sensations (Paræsthesia), and morbid Emotions, are familiar phenomena. Illusions (distorted or misinterpreted perceptions with a genuine basis) and Hallucinations (*i. e.*, false perceptions with no external basis), are the two distinguishable disorders of Perception. The first notoriously may be nearly or quite a normal affair under certain conditions. Whoever looks into a stereoscope with normal eyes gets an illusion of sight. The second, the hallucination, as involving important alterations of normal central functions, is, if occurring in an adult, a much more suspicious thing Abnormal elementary Impulses, under the name of "fixed" or "insistent" impulses, have played a large part in recent psychological literature. For false ideas and abnormal trains of reasoning, of very various degrees of complexity, the general name Delusion has been employed, although it should, strictly speaking, be confined to abnormally false judgments as such. Such then are the names of some of the possible disorders that analysis may find. Upon the basis thus laid, I must next proceed to give some hints as to procedure and as to the estimation of cases.

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III

MATHEMATICAL TEACHING (II)

My first paper[1] on this subject was devoted to the method of cultivating fundamental conceptions of space, number, and quantity in the minds of the young. I now pass to a consideration of the methods by which advanced mathematics can best be taught to minds approaching maturity, having especially in view those students who intend to make the study or application of that subject a specialty.

I must at the outset emphasize a fact worthy the serious consideration of everyone interested in the subject. We have been, as a nation, behind all other enlightened countries in the cultivation of mathematics, in a degree which would be hardly credible were it not made patent by the most cursory examination of historic facts. If an official board of mathematicians were called upon to make a list of the cultivators of their science who had made and published original researches during the first seventy years of the present century, arranging them in the order of the importance of their contributions to the science, they would find it difficult to include more than a single American in their list. Just where Peirce might stand it is unnecessary for us to guess; let it suffice to say that the list would have to be extended to hundreds before any other American name than his could find a place in it.

Nor would the case be very different were a similar list made of living or recent contributors to mathematical literature. A few American students are now happily coming to the front. But should we make a list of mathematicians who have lived or have done the greater part of their work during the twenty years from 1870 to 1890, arranging them in the order of their importance, we should probably have to name forty European representatives before we could find a place for the first American. This backward condition is emphasized

[1] IV: 277.

yet more strongly by the contrast it affords to the cultivation of the sister science, astronomy, among us. Although fifty years ago we could hardly be said to have had a single American astronomer, we stand to-day second only to Germany in the importance and general merit of our contributions to that science. It is worthy of mention in this connection, that the international Astronomical Society, the *Astronomische Gesellschaft*, having its headquarters at Leipsic, has more members in America than in any other country outside of Germany; about as many, I believe, as England and France combined.

Why, then, should mathematical thought and investigation be so foreign to our genius? Must we concede that the practical talent which our nation has exhibited in dealing with the arts of life, and cultivating the applied sciences, is accompanied by a corresponding inability to master the most abstruse of all the sciences? Or is it that our attention has not been properly called to the subject, and our students have had no proper training? This is a question that cannot be answered until we find by actual trial whether the best system of training will yield better mathematicians. It seems to me very desirable that our institutions of learning should at least make a vigorous effort in this direction; and I now ask leave to point out what direction it seems to me this effort should take.

In one respect our mathematical teaching might appear to be in advance of that of Germany. In the latter country the subjects of analytic geometry and the calculus are not usually taught at the gymnasia; they are university, or what we should call postgraduate, subjects. But they are taught in our own country, nominally at least, at more than four hundred colleges and scientific schools. So far as opportunity goes we ought therefore to be in advance of Germany, instead of being left far behind by that country, as we actually are.

But when we compare our methods of teaching with those used abroad, we find a possible explanation of our relative position. The point where we are to begin the comparison is that which divides advanced from elementary mathematics.

Of course it is not practicable to fix this point with precision, but I may fairly define it as that which divides the conception of quantities as fixed, from their conception as subject to continuous variation. In arithmetic and elementary algebra and geometry, quantities and figures, whether known or unknown, are considered as essentially determinate; they are either given in advance, or they are something which the student is to find out by a process of ratiocination. But in the advanced branches of modern mathematics, the idea of quantity as fixed has to be, so far as possible, eliminated from the mind. In place of it has to be formed the conception of a quantity as essentially variable and indeterminate; something the discovery of which is no part of the problem. At first sight it might appear that this point marks the transition from the practical to the abstract or impractical. But a little consideration will show that such is not the case. As a matter of fact, most of the quantities which we have to deal with in nature are subject to continuous variation. Time is passing on by a continuous flow; the sailing of ships, the running of trains, the blowing of the winds, and every form of human activity, imply unceasing change; and the innermost laws governing these changes can be grasped only when the thinker has reached the conception of a continuously varying quantity which never has the same value two moments in succession. Such a conception of quantity is first reached when the student takes up the subjects of analytic geometry and the calculus. About the former little need be said at present. Analytic geometry consists essentially of an application of mathematical conceptions to concrete cases, which can only be made by following a natural, well-defined course. The methods of teaching it cannot differ so materially in principle as to offer a wide field of choice or a broad basis for discussion.

It is, however, very different with the infinitesimal calculus. This is a subject on which the teacher may exhaust his skill without reaching results which are satisfactory to him. It therefore well deserves all the light that the experience of our teachers can throw upon it. I do not feel qualified to give

more than a few hints on the subject, and to open a discussion which, I trust, will be continued by others of wider experience. The greatest difficulties are encountered in implanting the fundamental conceptions of the subject in the mind of the student; and in view of our comparative ill success in this respect the first course which suggests itself is to compare our methods of developing these conceptions with those adopted elsewhere.

When we begin to discuss the logical foundations of the calculus, we find everywhere among us the impression that there are three methods of laying this foundation, known respectively as the method of limits, the method of infinitesimals, and the method of rates, somewhat like the Newtonian method of fluxions. This impression does not seem to exist in those countries which have made the greatest advances in the cultivation of mathematics. A few months since, the writer took occasion to examine all the foreign text-books on the calculus which he could find—English, French, German, and Portuguese; to see if there was any essential difference in laying the logical foundation of the subject, or any notion of a triple method. Not only was no such notion found in a single case, but no such radical or essential divergence as would imply a difference of method was detected. True, different writers use different forms of language, and different methods of illustration and explanation, but fundamentally all amount to the same thing.

The fact is that there is but one rational foundation for the calculus. This foundation is as old as Euclid, and is founded upon a system of reasoning known in modern times as the doctrine of limits. Are we then to banish infinitesimals as illogical? By no means; they are at the basis of the subject. But the method of infinitesimals is not a separate one from that of limits, for the very simple reason that an infinitesimal quantity is simply one which approaches zero as a limit, and is considered from that point of view. It is impossible to define accurately an infinitesimal except in this way; the idea of a limit is necessarily involved in it. When thus defined and

understood, there is no reason why it should be the bugbear that it sometimes is. Not only is the doctrine of infinitesimals exceedingly convenient, but when properly applied it is perfectly rigorous, and leads to short and convenient statements and processes, when the complete statement of a proposition in the language of limits would be long and complex.

But the use of infinitesimals no more does away with the ideas and doctrine of limits than the use of an exponent in algebra abolishes multiplication. The rules for using infinitesimals are founded on the method of limits just as much as the use of exponents is founded on the laws of multiplication.

The third supposed method, that of rates, may be disposed of yet more simply. A rate is nothing but a disguised differential coefficient of a quantity with respect to the time, and cannot be logically defined in any other way. True, attempts are sometimes made to avoid both limits and infinitesimals in a definition: for example, I read in at least one reputable work that "the numerical measure of the velocity at any instant is the number of units of space which would be described in a unit of time were the velocity to remain constant from and after the given instant." But this is defining the word by the word itself; a conception of "the velocity from and after the given instant" is the very thing we want defined. No definition can really be found except that the velocity is the quotient of an infinitesimal space by the infinitesimal time required to move over that space. If we wish to avoid the introduction of the term infinitesimal, we have to say that it is the limit of the quotient of the space divided by the time, when the time approaches the limit zero. In strictness, therefore, the method of rates is simply a method in which the difficulty is apparently avoided by assuming that the student knows in advance what a derivative is, so that no definition of it is necessary.

Although there is no such separate method as that of rates in developing the calculus, there is a method of teaching to which this designation is applied. The claim sometimes made, probably with a good deal of justice, that a student acquires the faculty of using the calculus more rapidly when the idea of

a rate is presented to him, than when that of an infinitesimal is used, merits careful consideration. We have here the seeming incongruity of the more ready comprehension of a complex than of a simple idea. Since a rate is nothing but the ratio of two infinitesimals, the use of it amounts to dividing all infinitesimal quantities by the infinitesimal element of time, in order to make them finite. Everywhere $\frac{dx}{dt}$ is to be used, instead of dx. The student is expected to understand the former, which he certainly cannot do unless he understands both dx and dt. Yet he has to arrive at the latter understanding by starting with the former conception. A little consideration will explain this seeming incongruity of getting at a simple idea through a complex one. Time is a variable quantity, of which we all have a clear conception from infancy. Everything that changes continuously with the time is a function of the time, during at least a limited period. With such variable quantities we are familiar from the cradle to the grave. When the variable function is space described, as it is when a man walks, or a train runs, its variation is evident to the senses, and one needs no teaching to form a clear conception of it. A calculus is thus built up in the mind of every intelligent person, in which time is the independent variable, and space described is the function. The station master who reports that a train passed a certain station at a certain speed, has a clear conception of a differential coefficient, as speed or velocity. If he possessed the faculty of analyzing his fundamental conceptions into their elements, he could, by careful questioning, be brought to define what he meant by speed as being the limiting ratio of the distance traveled divided by the time required to travel it. Practically he cannot do so, because he has not had the necessary training. The complex idea of a velocity is to his mind simpler than the simple one of an infinitesimal. The idea of the latter is so far latent that he is quite unconscious of it. Only by a severe course of mathematical training could he be taught to analyze the idea of speed into its simpler elements. The same is true with the

student who commences the calculus, and thus it happens that he will make more rapid progress if we divide all infinitesimal quantities by dt, in order to replace them by derivatives as to the time.

Is it, therefore, advisable to adopt the course of replacing the infinitesimal by ratios of infinitesimals, seemingly ignoring the former entirely? Can we not gain the advantages of the method of rates without its disadvantages? I think we can. The disadvantages are very great, mainly because until a student knows how to form and use infinitesimals, he has no practical command of the calculus. I say this as the result of experience. Our mathematical teaching has not yet recovered from the stage at which the study of the calculus was looked upon simply as a mental discipline, and the student himself never expected to be able to apply it intelligently. To do this in the simplest and easiest way he must acquire the idea of an infinitesimal. This requires much drill and practice, and all the efforts of the teacher should be devoted to the formation of the conception. The idea of rates may be used with great effect as an illustration, by making the student analyze it into its component parts, as the ratio of two infinitesimals. Beyond this the idea is of no use, except as an illustration of a particular conception which the student is expected to generalize and understand. The point to be continually aimed at is a clear understanding of the fundamental definitions and theorems relating to limits and infinitesimals. It is not to be expected that these will be understood at first, but every lesson should include an attempt to further their complete mastery. This is one of the rare and exceptional cases in which the learning by heart of definitions, theorems, and demonstrations, is to be commended. When learned the words should be repeated from day to day in some of their special applications. Forms of speech not understood at first will then convey clearer and clearer ideas to a mind really capable of understanding the subject.

In exercises having these ends in view, we should constantly aim at making clear the practical character of the subject.

The most unsatisfactory feature of the calculus to the student of every grade, even of the highest, is the apparent absence of any relation of that subject to any problem which nature presents, or any question which rational men would want to occupy themselves with. He differentiates and integrates; he learns methods, and demonstrates theorems, but the whole fabric which he builds is dissociated from every other department of life and of thought. He sees nothing in nature which corresponds to a differential or a derivative.

Now the truth is the very opposite of this, and one of the first steps in the study should be the training of the student to see that the operations in the calculus are those which nature herself may be said to perform. As I have already said, all the operations of nature consist in effecting a series of changes; a law of change can be stated only as a fluxion; a fluxion is a derivative; a derivative is a ratio of two infinitesimals; infinitesimals are quantities inconceivable in themselves and definable only as quantities approaching the limit zero. Thus the expression of a law of change necessarily assumes the fact of a relation between infinitesimals; that is to say, of a differential equation, and the operation of determining the effect of the law is one of integration. The language of the calculus is more exactly that of nature than any other form of language with which we are acquainted; and the greatest operations of nature may be described as processes of integration. One illustration of this may be drawn from mechanics. One of the differential equations of the motion of a material point moving freely under the influence of a force, is

$$m\frac{d^2x}{dt^2}=\mathrm{X}$$

Here x is one of the three rectangular co-ordinates which determine the position of the point; m is its mass; t is the time, and X is that component of the force acting upon the point in the direction of the axis of that name. To all appearance this equation expresses an idea very difficult to grasp. Probably every student who meets it for the first time looks

upon it as an exceedingly complex expression, to be arrived at by a difficult course of reasoning. And yet it is, in reality, nothing but the simplest and most complete expression of Newton's second law of motion. The usual statement of this law, as given by Newton and his successors, is imperfect in many points. It is, indeed, impossible to make a statement of it in ordinary language which shall not require a long series of explanations and definitions in order to be complete. Take, for example, the rendering by Thompson and Tait:

Change of motion is proportional to force applied, and *takes place in the direction of the straight line in which the force acts.*

Here we meet such questions as, what are we to understand by the term "change of motion," as a definite mathematical quantity? What do we mean by its taking place in the direction of a certain straight line in which the body is probably not moving? When we attempt the definitions required to answer these questions, we shall again find ourselves using terms which need definition. Altogether we should need a considerable fraction of a page, and one or more diagrams, to give a complete statement of the law, in which every term used should be defined. But the differential equation already given, combined with the definitions of the symbols x, X, t, and m, which enter into it, is a statement absolutely free from ambiguity, and complete in every particular.

The prediction by mathematical methods of the motion of the planets for centuries to come, and of the changing forms of their orbits through countless ages, is, perhaps, one of the most remarkable triumphs of the human intellect. This triumph is possible only because in the integral calculus an instrument was found which did in thought exactly what nature does in fact. The law of gravitation is expressed by a differential equation; the planets move in accordance with this differential equation from moment to moment through all the ages; and their position at any moment is simply a result of the objective integration which is thus performed by nature itself.

It may still not be clear how the laws of motion involve the

idea of limits and infinitesimals. Quite possibly in the mind of nature herself, if I may use the expression, they do not. There is, in fact, an apparent chasm between our conceptions and such a process as that of the falling of a heavy body, which requires a special method to bridge it. We can see, feel, or conceive only finite quantities. Of the process of continuous change going on in such a way that at no two intervals of time does a stone fall with the same velocity, we cannot form a perfectly clear and complete conception. But, though we cannot form the conception in our own minds, we can reach the results of the law by a course of mathematical demonstration. The infinitesimal calculus is the bridge by which we reach rigorous conclusions in a field into which the limits imposed upon our faculties forbid our entrance.

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IV

DEPARTMENTAL INSTRUCTION

Departmental instruction in primary and grammar grades, or the teaching of pupils by special teachers, is wrong in theory and in practice.

First: All the central subjects of study are organically a unit and cannot be economically and profitably taught separately.

The central subjects of study are: geography, geology, mineralogy, physics, chemistry, botany, zöology, anthropology, ethnology, and history. Geography, in its relation to geology, is the science of the present appearance of the earth's surface. The series of causes, or in other words, the history of the present appearance of the earth's surface, is geology. The knowledge of the rock material, which under processes of continual change has brought about the present appearance of the earth's surface, is mineralogy. The sciences of the laws of change in inorganic matter, are physics and chemistry.

Geography, geology, minerology, physics, and chemistry, are in essence one study, or different, but closely related, branches of one central subject. The knowledge of the laws of the chemical and physical changes in the earth's crust is geology; the present geological phase of the earth's surface, resulting from a succession of changes in the earth's crust, is geography. Any attempt to teach one of these subjects economically, without teaching the other, is practically impossible. Meteorology is the science of distributed sunshine, resulting in heat acting through air and soil, causing the changes in the atmosphere, and distributing air and moisture over the earth's surface. Meteorology, in its relation to geology, is the science of the physical and chemical forces acting upon the earth's surface, producing changes in the earth's external structure. The action of heat, acting through air and water, the laws of gravitation, all must be known in order to know the history of

surface changes, and the present appearance of the earth's surface.

The sciences of inorganic matter are united to the sciences that pertain to living organisms, by the idea of function. The sciences of inorganic matter constitute the knowledge of the environment, the physical basis, the nourishment, and support of life; thus botany, or the science of vegetable life, is closely united to all the sciences of inorganic matter. Geography and meteorology are the sciences which relate to the environment of life, and geology, the history of the environment of life, mineralogy, and meteorology the material and forces for life. The same can be said of zöology; animal life is dependent upon inorganic matter, with its various appearances in geography, geology, and mineralogy, and this fact pertains as well to anthropology, ethnology, and history. The most obvious relations are, perhaps, the relations of geography to geology, and of history to geography; every characteristic area of the earth's surface has its particular significance—that is, a characteristic area of the earth's surface is the manifestation of previous distinct and related geological changes. In other words, the history of geological changes, to the eye of the geologist, is clearly written in the surface of the earth. Every river cutting, every mountain valley, and every plain is the manifestation of long lines of previous geological action. This same significance is apparent in the relations of geography to history. Every characteristic area of the earth's surface, the result of certain geological changes, has had, and is having, a particular influence not only upon vegetable and brute life, but a higher influence upon man's life, and consequently has a direct bearing upon the sciences of anthropology, ethnology, and history.

Every stage of the development of man, although not entirely dependent upon certain environments of structure and climate, cannot be in any way understood without a knowledge of that particular environment. All the central subjects are essentially one organic unit, related to each other just as the organs of the brain and the powers of the mind are related,

one subject bearing upon and leading to another, and each subject helping to explain all.

Second: Each auxiliary branch of study bears directly, as a means to an end, upon the central subjects of study, and for this reason cannot be profitably studied by itself.

For instance, *form* is the entrance or gateway to all knowledge. Form, the product of observation and imagination, is absolutely indispensable at each and every step in the study of the central subjects. Nothing can be known of the universe without a fundamental knowledge of form, for energy acting through inorganic and organic matter produces form, acts through form, and changes form.

Next to a knowledge of form, as a fundamental means of study, is number. Number is the means by which the human mind judges of size, density, and weight, and measures force and time; in fact, form and number together are the great primary, indispensable means through which and by which all knowledge is gained. Not a rational step in investigation in any direction can be taken without a knowledge of form and number.

Third: Reading should not be learned as a subject by itself, because reading in its relation to human development is educative thinking, and the first and last question from beginning to end, in regard to reading is, what shall the child think?

The answer is obvious; he shall be led to read and study and think that alone which in the best way develops the mind; and the central subjects of thought are found in the central subjects of study. These subjects furnish the basis of all interest in study; they excite the will, the imagination, and all the faculties of the mind; stimulating them, if properly presented, to the highest activity. The three modes of attention—observation, hearing language, and reading—are means to an end, that is, they are all modes of thinking, and the same answer can be given to each of the following questions: What shall be observed? What shall be heard in language? What shall be read? That shall be observed, that shall be heard, and that shall be read, which is the most educative to the growing

soul. Study is intensified reading, and any attempt to isolate reading, to make it a subject by itself, is unphilosophical and extravagant.

Fourth: All the modes of expression are the indispensable means of intensifying thought, and are therefore to be taught in immediate relation to educative thought.

The modes of expression are, one and all, means of intensifying thought. The modes of thought-manifestation are gesture (voice), making, modeling, painting, drawing, speech, and writing. The fundamental pedagogical hypothesis is: can the skill in each one of these modes of expression be adequately acquired under the continued stimulus of intrinsic thought,—the thought gained by economical investigations of the central subjects? Writing is a mode of expressing thought. That thought, to be educative, must be intrinsic, must be in the direction of learning the laws which govern the universe. The attempt to teach writing by itself is a waste of time and fundamentally wrong. All forms of written expression can be overcome under the direct stimulus of thought itself, just as the more difficult forms of articulate voice are acquired. The same can be said of all other modes; for instance, the conceptive modes of expression—making, modeling, painting, and drawing. The failure to properly teach these modes of expression is in itself an argument against departmental teaching, for it has sprung from futile attempts to teach one mode as an isolated subject, with the hypothesis that after the technique of expression is gained by long and arduous work upon dead forms, some day the thought may come into the brain and be used through these forms!

Fifth: Every child begins spontaneously and unconsciously to investigate each and all the different central subjects of study.

The energies of the universe act upon the child's mind as a focus, his instinctive investigations being in the direction of all these subjects. He studies geography, geology, mineralogy, because he cannot help it, and the same can be said of the sciences of living organisms. The universal trend of these activities on the part of each and every child is the finger of

God pointing in the direction of all after-development. The isolation of any one central subject means attenuation and weakness in that direction. Not only does the child begin investigation in the central subjects of study, but also in nearly all the auxiliary means of study. Form and number, attention, observation, hearing language, and all the modes of expression excepting writing, are begun spontaneously by the child, from the very nature of the mind and the necessities of the external energies which act upon it. He pursues these investigations, following the tendencies of his own nature, and the necessity which external conditions present; to continue them is true teaching.

Sixth: The relation of the teacher to the child is such that the teacher must have all the central subjects and the means of study at hand, in order to develop the child's character.

There is not, neither can there be, any real profitable, educative, and scientific investigation of the individual pupil, without the most careful study. Each pupil must be differentiated by his own natural characteristics from all other pupils. In order to gain this important knowledge of individual character, the teacher must have time to study the individual pupil, a physical impossibility to the departmental teacher. Not to speak of the limitation of time, the *number* of pupils under a departmental teacher makes the individual study of the child an impossibility.

I repeat, that all progress in education, all scientific teaching, depends utterly and absolutely upon the knowledge and careful study of the individual; to really know the character of a child, the child must be studied through all the different modes of expressing thought. Each mode of expression, its manner and details, are manifestations to the teacher, of inner character and individual characteristics. It is plain that the teacher must have at hand conditions by which the entire power and weakness of the individual child may be revealed. The child cannot possibly reveal himself to a teacher in one isolated branch of study. A knowledge of character gained through

the presentation of one subject alone, would be most misleading. It is a well-known fact that a child may be weak in one subject, and very strong in another, and to study the child, each and all of the central subjects must be presented, together with the means of studying these subjects; in order that, through the expressions, that is, the manifested efforts of the child to work and to study, the teacher may get the best insight of the inner nature of each pupil. As a knowledge of individual character is the highest essential in the application of educative conditions, therefore there can be no scientific application of conditions without a study of the child from all these points of view. It is certainly bad enough that the child must have a change of teachers each year, but it is confusion worse confounded to insist upon a change of teachers for each subject, every hour of the day.

Seventh: The essential condition for scientific progress in teaching is a teacher who is an earnest, economical, incessant student of all subjects bearing upon the development of the child.

A teacher who teaches one subject, certainly under ordinary conditions, cannot be an economical student. For instance, a writing teacher studies form in writing, a subject which, from its very nature, has narrow limits; these limits are soon reached and study on the part of the teacher is discontinued; but let writing be seen to be one of the great indispensable modes of education related to all thought, then the insight of the teacher into the necessary subjects of expression of thought, will place writing as the second great mode of educative expression. The same can be said of the other modes of expression; drawing has hitherto been an almost utter failure because of its isolation. Drawing in itself is a great educative means in its intensification of individual concepts. Flat copy drawing, copy writing, etc., are all the products of futile attempts at departmental or special teaching.

Eighth: Experience shows that attempts at departmental teaching are by no means progressive, because they go in the wrong direction.

They go in the direction of isolation, rather than concentration. At the recent meeting of the Departments of Superintendence in Boston, I asked several of the most experienced superintendents in the United States, if special, or departmental teaching has ever introduced in an organic way one subject into their schools, and the answer was unhesitatingly—no! One superintendent, in whose school drawing had been taught for years, made this answer: "Drawing is no more educative now than it was in the beginning."

The recent discussion in Chicago is a case in point. The history which led to the discussion of the so-called "fads" is very instructive; it may be stated briefly. The growth of Chicago, it is well known, has been phenomenal. The attempt of the earnest, generous people to meet the enormous additions to population by schoolhouses and by school organizations and teachers, is as wonderful as the growth of this great city itself. The work begun with the so-called "3 R's," and then the zealous, honest people, anxious for the best good of the children, introduced one subject after the other, and regardful of the limitations of the teachers, special teachers were provided for each added branch. Music was introduced under departmental or special teachers: drawing was introduced in the same way; physical training followed these, and finally sewing and other kinds of manual training. The result was that every new study, instead of becoming a great means of education, became a burden to the teachers. Many teachers looked upon the special teacher as their special enemy, taking time needed for impending examinations; other teachers gave up their time with great willingness, and rested calmly and indifferently upon their oars while the teaching was going on; while a small minority of teachers took hold with the special teachers and tried to get the best out of the work.

It will readily be seen that the whole plan, while coming from the best motive, is an enormous failure, because special teaching can never render any subject effective.

The people who attacked the so-called "fads" knew that something was wrong, that millions were spent in the schools

in vain, and with blind zeal attacked the enemy directly in front, the subjects themselves. Now, to say that any one of the so-called "fads," music, drawing, or physical training, is not in itself, when properly taught, in a high degree educative, would be absolutely ridiculous. All educators in the world, worthy of the name, at the present time look upon these subjects as a means of thinking as indispensable to human growth. These new subjects, or "fads," as they are called, are also in the highest degree practical, that is, they lead to practical success in life. So, there is no other hypothesis by which the confusion or discussion can be explained—which will ultimately result in great good—but from the overburdening of the work by special teachers, and the total failure to introduce these subjects organically into educative school work.

It may also be said, I think, with great confidence, that the tendency of departmental teaching upon the teacher is narrowing. I can call to mind some teachers of mathematics whose minds are so constantly upon figures and mathematical demonstrations that they seem to move toward a cipher. Writing and music teachers too, often show that all-sided development is not the result of most faithful devotion to one subject, however important that subject is in itself.

The argument for departmental teaching is that each departmental instructor may be an expert in his subject, may be able to present the conditions for the best work; on the other hand, for the regular teacher in a room to know enough to present the subjects properly is impossible, and if he does, there is not the time or strength on his part to do it. This error springs from the old and strongly rooted belief in quantitative results—in the old theory of "going over," "getting through," "finishing," examinations for promotion, in fact all that pertains to quantity of knowledge. The new direction is as new as Froebel and Pestalozzi, and is also as old as Socrates and the Great Master, and is in the direction of quality, founded upon the fixed pedagogical rule that all growth is by self-activity, that the nature of the study is determined by the nature of the thought evolved, and that all central sub-

jects, and all means to know these central subjects are conditions to bring about the highest quality of mental action. They are all concentrated upon the center, the human soul; and in this view of the subject, the richer the knowledge on the part of the teacher, the more the means he has for human growth.

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V

A NEW METHOD OF LANGUAGE TEACHING

On the kind invitation of the editor of the REVIEW to prepare for its pages a brief article descriptive of what he terms *my* new method, I beg to submit to its readers the following report on the so-called new or reform method (also known as the direct or imitative method) of language teaching, as practiced in many of our secondary schools, and essentially recognized in the Prussian *Lehrpläne und Lehraufgaben* of 1891. For, although Mr. J. W. Longsdon of King's School, Canterbury, says in the (London) *Journal of Education* for last October that the method in question has been always described to him, during his recent stay in this country, as the Vietor system, I do not know that I have ever heard it called by that name myself; nor do I intend to claim more than my small share of the honor that may be derived from having participated in starting the present reform movement.

ORIGIN AND GROWTH OF THE NEW METHOD[1]

In trying to give a short account of the origin and growth of our new method, I shall take the liberty of making free use of a lecture delivered by me at the Cheltenham Conference, on the *Teaching of Modern Languages*, in April, 1890, and shall begin, as I did then, with a quotation from Henry Sweet's paper *On the Practical Study of Language* (thirteenth address of the president, to the Philological Society, London, 1884).

"In the last few years," Dr. Sweet says, "German philolo-

[1] I am, of course, fully aware that the so-called new method is only comparatively new, some of its leading ideas having been propounded, *e. g.*, by Perthes with reference to the teaching of Latin; to say nothing of Ratichius or Comenius. It is none the less true, if somewhat humiliating, that our present modern language reform does not appear to have been consciously influenced at first by any such antecedents. No one will wonder at this who knows that the science of education is still far from being—practically—a recognized subject of our university training.

gists and teachers have begun to agitate for a reform of their present system of practical instruction in language, which they themselves almost unanimously [?] condemn as unscientific as well as unpractical. I would especially call attention to the anonymous essay *The Teaching of Languages must start afresh*, and Franke's *Practical Acquisition of Language* (*Der Sprachunterricht muss umkehren!* von Quousque Tandem, [Henninger, 1882]. *Die praktische Spracherlernung, auf Grund der Psychologie und der Physiologie der Sprache dargestellt* von F. Franke, [Henninger, 1884])."

I may here remark parenthetically that I have acknowledged the authorship of the former essay in the second edition (1886).

"The latter," Dr. Sweet continues, "goes quite as far as I have ever done in condemning the present system. It insists on a phonetic basis, and characterizes the older system as the *translation method.* There are, besides, a number of essays and pamphlets, some published separately, some in such periodicals as the *Anglia* and *Englische Studien.*"

Dr. Sweet then quotes from a review of Kühn: *Zur Methode des französischen Unterrichts* by Klinghardt (*Engl. Stud.* VII, 3, p. 491 foll.) his summary of the three great principles of reform which were at that time (1884) not exactly, as Sweet puts it, "generally accepted in Germany," but to use Klinghardt's own phrase, "gradually uniting upon themselves the leading votes," viz.: (1) *foreign languages are to be learned primarily by means of connected texts, the grammar being kept in the background;* (2) *the foreign language should be learned by imitation and thinking in it, not by translating;* (3) *living languages should be learned before dead ones*—all views which, as Dr. Sweet remarks, he had himself held for many years back.

There is one other feature which Klinghardt might have added to his second principle: *That pronunciation should be taught on the basis of scientific phonetics.* On this point Dr. Sweet says: "The great interest this new science is exciting is sufficiently attested by the fact that there are at the present moment three full treatises on it passing through the

press; two in Germany by Vietor and Trautmann, one in Sweden by Wulff. The first attempt to apply phonetics in the teaching of English was made by Vietor in his *Englische Grammatik* and then by Trautmann, *Anglia* I, p. 592 foll." (As a matter of fact, my small English school grammar was preceded by Trautmann's article.) "Lastly, Schröer has brought out a treatise on the method of teaching English pronunciation, based on the work of the English school of phonetics (*Ueber den Unterricht in der Aussprache des Englischen*, von Dr. A. Schröer; Berlin, 1884), and embodying the results of his own practical teaching experience. The Norwegian Western's *Engelsk Lydlære* also follows the English school very closely."

This rather insignificant germ of reform literature has meanwhile grown to very considerable dimensions. There is now a goodly array of more or less thorough-going, and more or less original, reform grammars and reading books, both for English and French, not a few being remodelings of older works; to say nothing of various kinds of compromise between the two systems.

The progress of the reform was greatly aided by the publication of some admirable collections of phonetic texts, such as those published by Sweet, Passy, Franke, and others, most of which were prepared expressly for the use of German teachers.

Among other valuable contributions to phonetic literature may be mentioned Dr. Beyer's books on French phonology, Miss Soames's *Introduction to Phonetics*, and one or two dissertations by Professor Grandgent.

The adaptation of the phonetic method to the instruction of beginners was very ably sketched out by Rambeau, while some other of our most ardent reformers, Klinghardt, Kühn, Quiehl, and Walter, set forth the results of their practica teaching experience in graphic reform records (Marburg: Elwert) which no partisan or adversary can afford to overlook.

Still more striking phenomena of the growth of the new method will be thought the resolutions carried at recent conferences of German philologists and educationists.

At the thirty-seventh Philologists' Congress, held at Dessau, in 1884, the neo-philological section accepted unanimously the following motion: *That the reading book should be the starting point and center of instruction in teaching French and English, and that the grammar should at first only be treated inductively.* It will be seen that this motion agrees closely with the first of the three reform principles as stated by Klinghardt.

This resolution was followed by the following five theses, which were unanimously approved by the neo-philological section at the thirty-eighth Philologists' Congress, at Giessen, in 1885: (1) *In the upper forms the reading should be made the center of instruction.* (2) *The grammar should, as far as possible, be treated inductively.* (3) *In selecting materials for reading, modern historians are principally to be considered.* (4) *Original compositions referring to the matter read are to be gradually introduced in lieu of translations into German.* (5) *It is desirable that in the final examinations some original composition in accordance with the aim of the scholastic course, or, eventually, a translation into German, should be demanded instead of the written work hitherto recognized*—(compare Klinghardt's second principle). A large majority pronounced in favor of a motion condemning previous instruction in Latin as "injurious to the rational conducting of language teaching" (compare Klinghardt's third principle).

On a motion proposed by Professor Stengel of Marburg, the same section resolved that a vote of sympathy should be sent to the American Modern Language Association, and I am pleased to add that I, being president of the section, had the honor of delivering that message.

The following year, 1886, is rather a memorable one in the annals of modern philology and modern language teaching. The plan, first suggested at Giessen by Professor Stengel, and subsequently advocated by him in conjunction with myself, of founding a Modern Language Association similar to the American body of that name, was taken up by the Hanover *Verein für neuere Sprachen*, and carried out at the First Modern Philologists' Congress held in that town in October, 1886.

The association (*Verband der Neuphilologen Deutschlands*) now numbers about one thousand members, and may be said to be thoroughly representative. The attitude shown by this first congress toward the questions of method at issue did not materially differ from that of the Giessen section.

Earlier in the same year, M. (now Dr.) Paul Passy of Neuilly, near Paris, had started the Phonetic Teachers' Association, or *Association Phonétique des Professeurs de Langues vivantes*, whose organ, *The Phonetic Teacher* (*Le Maître Phonétique*), edited by Dr. Passy (6 Rue Labordère, Neuilly-sur-Seine) has just completed its seventh year. Between five and six hundred modern language teachers of different countries have joined the association; the list being headed by Germany with about one-third of the total number, Sweden following pretty closely, and at longer distances France, Austria, Hungary, England, Finland, Denmark, etc.; the United States also being represented by half a dozen well-known names. I think it worth while to reproduce the society's programme —which is meant only to indicate its general tendencies—in full: (1) What must be studied first in a foreign tongue is not the more or less archaic language of literature, but the spoken language of every day. (2) The first care of the teacher must be to render the sounds of the foreign language perfectly familiar to his pupils. (3) In the second place the teacher will make them study the commonest phrases and idioms of the foreign language by means of connected texts, dialogues, descriptions, and stories, as easy, as natural, and as interesting as possible. (4) The grammar should at first be taught inductively, as a corollary and a generalization of the facts that have been observed during the reading, a more systematic study of it being kept for the end. (5) As much as possible the expressions of the foreign language should be connected directly with the ideas expressed, or with other expressions of the same language, not with those of the pupils' native tongue. Whenever possible, translations should be replaced by object lessons, by lessons on pictures, and by explanations given in the foreign language. (6) The written work which will be

expected from the pupils later on, should at first consist in reproductions of texts previously read and explained, then of stories related *viva voce* by the teacher; after that, free compositions will follow; translations and exercises should come last. I need not point out the close affinity between this programme and the tenets of the German reform.

The same principles were virtually adopted by another society, formed in 1886, in connection with the Third Northern Philologists' Congress, held in Stockholm, viz., the Scandinavian Society for the Reform of Language Teaching, *Quousque Tandem* (the name being suggested by the pamphlet mentioned above). Its presidents are: Dr. O. Jespersen of Copenhagen; Professor J. A. Lundell of Upsala; and A. Western, Cand. Mag., of Fredriksstad (Norway). The society issues a small periodical, the *Quousque Tandem Revy* (also forming part of the larger review *Verdandi*), and has, besides, published a number of valuable *Q. T.* pamphlets (Upsala: Almqvist & Wiksell).

As to Austria (where the reform had been inaugurated by Shröer in 1882), a new impulse to the movement must be dated from the year 1887, when the question "whether a reform in modern language teaching was desirable" was unanimously answered in the affirmative by the Vienna society *Realschule*, and the Minister of Education, Dr. von Gautsch, publicly declared it to be his opinion that in teaching modern languages a system totally different from that used in teaching classics should be introduced, *i. e.*, a system aiming principally at making the modern languages a means of communication. (See an article by W. Swoboda, in *Phonetische Studien*, V, 2, p. 170 foll.) In Germany the cause of reform has been steadily advancing since the First Modern Philologists' Congress of 1886.[3]

At the Third Congress, held in Dresden, in 1888, the follow-

[3] Although there has hitherto been no German periodical exclusively devoted to the subject, my review, *Phonetische Studien* (published since 1887–88; Marburg: Elwert), has been conducted "with especial reference to the reform of language teaching." Perhaps I may add here that since Easter, 1893, it has been continued as a Journal for Modern Language Teaching, and under the new title, *Die Neueren Sprachen*, the former title being restricted to a supplement.

ing resolution was carried by a very great majority: *The Third German Modern Philologists' Congress declares it to be desirable that further experiments, as numerous as possible, should be made with that system of teaching which rests on a phonetic basis and makes connected texts the center of instruction.*

That wish could not have been realized, if the cause had not found favor with our scholastic authorities. Among the well-wishers and protectors of the reform must be named: Dr. Stauder, of the Prussian Ministry of Education; Drs. Lahmeyer and Kannegiesser, of the Administration of Secondary Schools of Hesse-Nassau, and Dr. Münch, of that of the Rhine Province; Dr. von Sallwürk, chief of the corresponding department in the grand duchy of Baden, who, a few years ago, said, with reference to Tanger's anti-reform pamphlet, *Muss der Sprachunterricht umkehren?* that that question had come too late, for the teaching of language *had* started afresh.

It will now be time to consider a little more closely what the Prussian *Lehrpläne* of 1891 say to the new method. The keynote is to be found in a passage of the "Explanations" referring to French. After a remark that the reduction in the number of French lessons is merely a consequence of the general reduction of lessons, we read: "Taking into account the considerable curtailment of the grammatical matter, and the progressive development of the so-called newer method, the final standard, which mainly regards the practical use of the language in writing and speaking, may still be attained. In this assurance the Administration of Scholastic Affairs feels confirmed by the results already achieved in a number of schools, and by the earnest endeavor of modern language teachers to perfect themselves for the practical use of the foreign language in utilizing all attainable means, both at home and abroad."[3]

[3] Beside some ability in reading this is, indeed, all the *Lehrziel* comes to in the new *Lehrpläne*. In the older Instructions (of 1882), there was a long list of accomplishments, such as a sure knowledge of French accidence and syntax, familiarity with the more important synonyms, etc.

As the context shows, there is much more to be thankful for in the new *Lehrpläne* than a mere compliment to the reformers, and, indeed, to modern language teachers in general. Still there remains too much translating into the foreign language, the suppression of phonetic transcription in teaching the pronunciation, as also of theoretical sound-laws (whatever that may mean), and worst of all, the old standards for granting matriculation certificates on leaving school.

What we want next is a change, I should say, a dislocation of the equilibrium, in the training of modern language teachers, whose practical requirements have yet found but little attention at our German universities. This newest reform claim was brilliantly advocated by Professor Waetzoldt of Berlin, at the Berlin Fifth Modern Philologists' Congress (Whitsuntide, 1892), and vigorously supported by the audience, only eight or ten votes out of about 250 dissenting. A lecture by Professor Rambeau of Hamburg (now of Baltimore), on some special feature of the question, met with the same favorable reception.

A SKETCH OF A REFORM LESSON[4]

After what has been said under the preceding head, a few remarks will suffice to show how a reform lesson may—not must—be conducted.

I assume the class to have mastered the rudiments of the language, so as to be able to read some easy text.

(1) Having selected a short passage (forming a so-called method-whole) and fixed the attention of the class on the subject, the master should read that passage aloud, the pupils' books as a rule being closed during this first reading.

(2) Repeat the passage, taking it sentence by sentence, and make sure that everything is understood by the class, by questioning them, and allowing them to ask questions, both if possible in the foreign language.

[4] See *Quousque Tandem*, p. 30 foll.; Vietor & Dörr, *Englisches Lesebuch*, Unterstufe, 1st ed. (Leipzig: Teubner, 1887, p. ix); *Englisches Übungsbuch* (same publisher, 1891), *passim*.

(3) For greater surety make the class translate the passage, or parts of it, into their own language. As the instruction proceeds, these translations may be gradually omitted.

(4) Let the class open their books and read aloud in their turn, exacting correctness as to sounds, stress, intonation, and sense.

(5) Cause the class to answer questions (in the foreign language) on the text read, to relate the contents in their own words, eventually introducing variations as to tense, person, number, etc.

(6) Let them find out and arrange new words and phrases with a view to their meaning and logical connection; also, in like manner, grammatical forms, etc. (grammatical "rules" to be formed by the class under the assistance of the teacher).

(7) See if the text may be utilized in a moral sense.

(8) Make the text, or parts of it, a subject for written work of various kinds (compare 5, 6, 7), all paper work being preceded by blackboard practice, at least in the earlier stages of instruction.

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VI

THE STUDY OF EDUCATION IN STANFORD UNIVERSITY

The organization of work in the Leland Stanford Junior University is different from that found in most institutions of collegiate or university rank. Subjects are not grouped in classes, and no courses of study are laid out. Throughout the four years the work is elective, and students select the work best fitted to their individual needs. There is but one restriction on this freedom of choice; each student must devote one hour a day for the four years to some one line of work. Thus each student has one major subject, and one-third of his time for the four years must be given to that subject. The professor in charge of a student's major subject is supposed to be a guide, counselor and friend to the student; and his advice as to the best lines of study to pursue has a large influence with his students. Of course, each professor is free to determine the conditions under which students shall be allowed to come into his department. Thus a professor of civil engineering would not allow a student to take up his work who was not well grounded in mathematics.

The department of education stands on the same footing as the departments of mathematics, Greek, or civil engineering; hence, for graduation in the department of education, a student must have completed the equivalent of four years in the university, one-third of that time having been devoted to the special studies in education. Students taking the full course in education are also required before graduation to have a reading knowledge of French and German, and to take certain courses in the departments of psychology and physical training. The remainder of their time is devoted to the special subjects they hope to teach. In education, as in all other departments, students who are at least twenty years old may

be received without formal examinations as special students, if prepared to do the work they wish to take up. They are not candidates for degrees, but they have all the advantages for study offered by the university.

The aim of our work in the department is, in the first place, to give a liberal training. We have no accepted philosophy of education nor any system of pedagogy to impart, but we hope to make the work of such a nature that, as training in historical and scientific investigation, it will rank favorably with the work done in the other departments of the university.

We hope, in the second place, to carry on investigations that will add some increment to the sum of human knowledge in educational lines. We believe that nothing else is so stimulating to students and teachers alike as the search for new truth.

In the third place we hope to give our students an acquaintance with the best that has been thought and written on educational matters. We hope to make them acquainted with educational practices, theories, and books.

The work actually being done at present is as follows:

Two courses are offered on the history of education; one of these deals with the development of the European intellect; the other is confined to our American development. In this work we are not primarily concerned with the biographies and theories of reformers, but we try instead to examine the successive ideals that have appeared in the world, asking how each has arisen, how the people have tried to perpetuate and broaden it, and why it has given way to its successors. Coming to our own time we inquire how, judging from the experience of the past, we can best perpetuate and extend our own ideals. It is the history of civilization studied with special reference to the problems of education. These studies are made in large part from the original sources.

A seminary meets once a week for the more extended study of special historical subjects. Some of the subjects now being dealt with are: the development of our common-school system in California; the development of the American university;

the forerunners of Comenius; and the history of the kindergarten.

Our most important course is that devoted to children. In it three lines of work are taken up—direct studies on the children in our experimental school, comparative and statistical studies on data gathered from outside schools, and reviews of studies already made and printed. We have an experimental school belonging to the department, where lines of investigation are carried on and observations recorded. Children from two to twelve years old are received in the school; it is held in a university building, is supported from university funds, and has the same relation to the department that a hospital would have to a department of medicine.

Since the university began its work we have organized classes of teachers in Oakland, San Francisco, Santa Cruz, Alameda, San José, Napa, and other places on the Coast. In connection with these classes some thousands of studies have been gathered, bearing on the physical development of the children, the development of the color sense, of fear, and of theological ideas, the intellectual peculiarities of poor spellers, the natural lines of child's interests, children's drawings, etc., etc. In the university classes an attempt is made to classify and interpret these data.

Courses in school organization and management and in methods of teaching various subjects are presented by Miss Margaret Schallenberger, formerly director of the practice school in the San José Normal School. For the first of these courses a collection of more than four thousand school reports and catalogues has been made.

A small class is making a comparative study of European school systems; and another class meets twice a week through the year to study Rousseau's *Émile* and Pestalozzi's *Lienhard und Gertrud* in the French and German.

As has been said, students in education are required before graduation to take certain work in psychology under the direction of Professor Angell, and a course in school hygiene, anthropometry, and physical training under Dr. Wood.

Requiring as we do only one-third of a student's time in education he is enabled to carry on other lines of work in science, history, literature, language, or whatever he likes, during his four years' course. Any student whose major subject is not education may come into any of our classes where he can find helpful work, and such work counts directly toward graduation.

Thus it will be seen that our work is not intended primarily to fit students for the grammar grade and lower high-school positions in California. That work is being admirably done by the normal schools under the direction of the State. Our aim is instead to turn out a few thoughtful, well trained men and women with a scientific knowledge of children, with some experience in examining educational problems at first hand, with a good knowledge of the development of the human mind in the past, and fairly well acquainted with the best thought and practice in educational matters at present. Such men and women we expect to go out and become leaders in educational work.

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VII

THE RECENT SUMMER SCHOOL AT JENA

In responding to the Editor's invitation to give some account of the work now concluded at Jena, I shall offer as brief a sketch as possible of our aims, and of the arrangements which we adopted to achieve them, and then proceed to indicate the pedagogic experience which we hope to reap, as one special fruit of our endeavor.

The motives which lead teachers to establish and to flock to Holiday Courses are so well understood that it is unnecessary to dwell upon them here. So long as the majority of secondary teachers, in England or in America, cannot obtain proper training before they commence their life's work, so long will the best among them seek to make up for their deficiencies by these means. The novelty of the present proposal consisted, not in its being a Holiday Course, but in attempting to do for teachers what it might be supposed they are doing and will do for themselves: to give them opportunity to study German in Germany. Such a proposal might seem superfluous, for the teacher has merely to take a ticket across the sea, to cut himself loose from English society, and he has the land and its people before him. Experience, however, has abundantly shown that the problem is far more difficult. Numbers of teachers of German never cross the sea at all, because they have no information as to where, what, and how. They are afraid of expense which they cannot foresee, of difficulties among foreigners in foreign places. And if they do make the venture, they often fail in their aim; they have only what is called a grammatical knowledge of German, and the spoken language is Babel to them; they are lodged in a pension for the few weeks of their holiday, where the ladies of the house speak English and give lessons in German, often by the aid of Otto; at the end of their month abroad, they can scarcely

muster up enough German to see to their luggage. Worse than this, they have not only failed to acquire a little of the language at first hand, but they have scarcely learned anything of the German people. They have perhaps gone to the *Stadt Kirche* and the *Theater* and have occasionally drunk coffee at an afternoon *Konzert;* but in the conventional life of the pension, crowded as such houses are with foreigners from every corner of the globe, they cannot come into personal contact with the men and women of the country. No doubt a month's visit is far too brief, but in a month one ought at least to begin; especially when the conditions are such that the teacher can only spend a month at a time in Germany!

These then were the principles which guided us in offering a course at Jena. We desired to help our English teachers in dealing with a branch which is admitted to be one of the most unsatisfactory in the curriculum—instruction in modern languages; we felt that we should help them most effectually, not by displaying some new patent trick of method by which everyone can acquire a tongue in six weeks or six months, but by offering them organized instruction in the country where the language is spoken. Our own experience taught us that the modern language teacher (and the teacher's critic also!) are only able to judge of principles of method, when they *themselves have gone through the experience* of really acquiring the language; only when they have personally learned something of the German people and of German life are they able to judge of the value of this learning in the English classroom. We proposed to help our students in two ways; first, by giving good elementary instruction from skilled teachers—of this more anon; secondly, by bringing them into contact with that section of German society which is most naturally interested in the teacher: *German school society.* Every man seeks his kind: the commercial traveler associates—abroad as well as at home—with travelers; the surgeon will go to the hospitals and find a welcome among medical men. Why should the teacher not do the same? Why should he, on the contrary, shut himself up in some excellent lady's establishment for boarders and

translate Hauff's *Märchen?* I do not, for a moment, wish to denounce the excellent and kindly provision which the pension, all over Germany, affords; on the contrary, some of these houses are veritable homes, and sometimes the foreigner will find in them all that he needs; but, in the nature of things, they cannot be regarded as sufficient for the special wants of the teacher. While therefore in Jena we provided comfortable homes of this kind for our students, with express injunction to the ladies in charge that only German should be spoken, we aimed at doing much more for them, by making a beginning of acquaintance for them with German teachers. At first we had hoped to bring a number of modern language teachers from German schools to join our English party, hearing English lectures at the same time that the English students heard German. This part of our plan, however, fell through; partly because the vacations of German and of English schools do not coincide, partly because the Germans who study English will evidently prefer to attend a Holiday Course at Oxford or at Edinburgh[1] rather than at Jena, in spite of the extra drain upon their slender purses. This was, however, no serious hindrance to our purpose. Jena, as all the world knows, is an active educational center, with many schools and many teachers; we have begun to interest these in our enterprise, and next summer we shall find them taking a leading share in welcoming their English colleagues. The chairman of our committee was Professor Rein, whose name is already known to your readers; the Gymnasium offered us classroom for our instruction; the Bürgerschule commenced its autumn term in the middle of the month, and its teachers not only conducted us over the building, and exhibited their apparatus, but they invited us to *hospitiren* in the classes. To this we may add a match with the Jena Teachers' Football Club, followed by a pleasant excursion. More important than all, we were fortunate in finding that another Holiday Course, wholly independent of ours, was to be held at Jena during the same weeks. Jena was the first university to imitate the example of the

[1] We propose, next year, to invite German teachers to England on a similar plan.

United States, and to offer this kind of aid to teachers. The *Fortbildungskurse für Lehrer Deutschlands, Oesterreichs, und der Schweiz*, which Professors Rein and Detmer have for some years past conducted for a fortnight at Michaelmas, has now been transferred to the first fortnight of August, and our English students not only received a cordial invitation to join their German colleagues in excursions and in social evenings, but the few who could already follow a German lecture found courses on scientific and pedagogic subjects ready prepared for them. In the future the two courses will be arranged under the same direction, to their mutual advantage.

Only in one respect does it seem difficult to harmonize the views of English and German teachers. Of our English students, at least one-third were women teachers; among the Germans not only were there no *Lehrerinnen*, but the attendance of women is not permitted by the university Curator. The part played by women in German education is indeed insignificant, and every step made in the direction of reform is beset with difficulty. Here also our venture has borne good fruit. Four English lady-students wished to hear Professor Rein's course on *Unterrichtslehre*, and since the regulations of the *Fortbildungskurse* did not permit him to admit women in the university building, he chose another lecture room outside of the university jurisdiction, in which he gave his course to the German men teachers and English women teachers together. For Jena the event was somewhat memorable, as the first occasion on which women have heard a course of university lectures, and it is probable that next year means will be found to invite *Lehrerinnen* for a Holiday Course to Jena, and they will not only hear university professors, but will have the opportunity of meeting English women teachers also.

The reader will have already become aware that Jena is a suitable center for a Holiday Course, not only because of its delightful situation and of the friendly, homely character of its inhabitants, but because it brings teachers into direct contact with those studies which are to *all* teachers of vital importance—the study of educational theory and practice. Here

again, in a month, one can do but little; nevertheless that little has been done, and the seed will bear good fruit. Our students have seen a university practicing school, they have heard of the half-century of pedagogic effort which Jena has witnessed under Stoy and Rein; and this is much for visitors from a country where pedagogy is scarcely known. We have made it clear that our efforts for the improvement of modern language teaching are not directed simply to the bread-and-butter purpose of learning a new speech, but are founded on the broad basis of the needs of our children, to answer the highest ends of intellectual and moral education. Your readers are familiar with the purport of Herbart's famous term "Erziehender Unterricht"; they may rest assured that it has not been far from our thought in the plans for a summer school at Jena; it would, however, take me too far from the immediate purpose of this article to discuss the ethical aims of modern language instruction.

There is one obvious objection to our plan which will already, I imagine, have occurred to the reader. Our immediate object being to cut off the English student from English life and English speech, does it not seem inconsistent to bring a number of students together, since they are pretty certain to talk English whenever they meet? I admit the danger, and I should be glad to compare our experiences during the last month with those of the summer schools of languages which are so popular in the United States. Our reply is, that the students themselves see the danger and can avoid it if they will; many of them, however, are tired teachers, who seek rest in their vacation as well as study; the effort of talking German, especially at first, involves a serious mental strain, and the occasional meeting with English friends, after the day's work is over, is a welcome and even necessary relief; the all-important point seems to be that every student, for the most part of the day, should be surrounded by German—language, people, life; and this has been secured. Any possible loss which some of the weaker ones have suffered by associating too much with English people, has been, even for them, made up by the pro-

vision of skillful class instruction, day by day, and this part of our work has been so important that I will conclude my paper by describing it in more detail.

Most of the students who applied for admission desired elementary instruction: *i. e.*, they had never been abroad before, and had never heard German; some knew the grammar fairly well, and could translate, but could not understand or speak. We were fortunate in being able to secure for this class the services of an experienced teacher, Herr Oberlehrer Scholz, the director, under Professor Rein, of the practice school connected with the *Pädagogisches Seminar*. We agreed beforehand upon two fundamental principles for the instruction. First, that the mother tongue should be excluded, or at any rate, only appealed to as a last resort when other means of *Auschauung* failed. The *language of instruction was to be German and not English.* We, of course, adopted this principle, because it was obvious that unless our pupils could hear German they had better have stopped at home. The problem was, how to select material and method of instruction, in order to make it possible to proceed independently of English. Our second principle was, that the material of instruction should be chosen from matters relating to Germany of culturo-historical interest. On this basis Herr Scholz marked out a series of lessons, in which the geographical, historical, and literary material which Jena afforded was worked up into simple forms of German speech, which became, before the end of the month, living active property in the ears and mouths and pens of his students. Schiller and Goethe, Napoleon and Luther, were all called upon in turn to contribute something to the material employed. The classroom was not the only scene of instruction; the students saw the things with their eyes, as well as heard the symbols of them with their ears.

The class was undoubtedly successful, and the results will produce fruit beyond their immediate purpose. With the experience gained from a first experiment, Herr Scholz will be able on a second occasion to make the work more completely

pedagogic; and, we hope, to put the results on record.[3] The best testimony to its value was the unanimous approval of the class—most being themselves teachers of experience.

The two principles above laid down—and especially the first—are by no means new to American readers; you have had among you for some thirty years a school of very successful teachers employing what they call (and miscall!) a natural method; in England the same principle is now being advocated by a Frenchman (the Gouin method) whose extraordinary book I had the honor to review some months ago in the pages of this REVIEW. We are, however, being told by visitors from America that these reformers are making very little headway, and that their principles are being disapproved by the best teachers in secondary schools. If this is so, I venture to trace the failure not to an error in their root principle (exclusion of English) but in their lack of teaching power, or in their lack of knowledge of pedagogics. If a teacher decides to impart German in the German tongue, he must not only know the language well, but he must have *all* the resources of teaching skill at his command. The poverty of their resources is surely a patent error on the part of the natural method reformers. Some call themselves Pestalozzians, and think they are following the great Swiss teacher by using the device of pictures and classroom objects; others say that pictures are out of place; others, like Gouin, try to make their language *anschaulich* by active motion and vivid description. Surely the true teacher will use *every* device that wit and experience can suggest, in order to achieve the one great mental result in his pupil's brain: *direct association* between language-symbol and idea, without the intervention of an English synonym, and, what is even more important, the *habit* of making this direct association.

When we came to discuss the value of these principles, the problem before us was to decide: how far is it desirable or

[3] This is not the first experiment which has been conducted in modern language teaching at Jena by the Pedagogical Seminar. Some earlier work in French has already been published in the *Seminar Annual.*

possible to adopt the same methods under the very different conditions of an English classroom? There was much diversity of opinion. Some, who were thankful to learn German for themselves in this way, did not think it well that their pupils should have the same advantage; since one of the chief objects, as it appears to them, in studying foreign languages, is to improve the pupil's English—by means of translation. Others doubted whether the "faculty of reason" would be trained, although the class themselves admitted that they had been reasoning during the whole process of instruction; and, in the latter part of it, had learned to follow and to think without any reference to English in their own brains. Only one evening was devoted to this discussion, because it was felt to be undesirable to be holding English gatherings even on this absorbing topic; after all, the best result for the students was gained, not from discussion with others, but from daily subjective *observation* of the mental process through which they passed.

Finally a few particulars may be added, as to the numbers in attendance—and as to the plans proposed for extending the work hereafter. The attendance has been very small—total number, twenty-seven. In the previous year, when the proposal was first mooted, some sixty teachers expressed their desire to attend, but since then the cholera has scared us all, and at one time we feared that the entire scheme would fall through.

The students were divided into two classes, the most elementary class being taken by Herr Scholz as above described. Another year, with larger attendance, the work will be easier because the classes will be more exactly graded. Our students were mainly teachers in English secondary schools; among the rest we had three lecturers on education attached to university colleges. It was an especial pleasure to have two American teachers in our little company; they had just arrived at Jena with a view to pedagogic study, and took advantage of the class to make a beginning in studying the language.

Before the end of the course I was able to transfer the

organization of the enterprise, as far as England is concerned, from my own hands into those of a small provisional committee, with Dr. Spencer, professor of French and German at University College, Bangor, as chairman. This committee proposed to extend the work to France, and has selected Caen in Normandy as a center for next year. A fortnight's course in the spring will be arranged for elementary students, and full courses, both of class instruction for beginners and of lectures in the literature and history of the country for more advanced students, will be held both at Jena and at Caen in August of 1894.

While thus hoping, by means of Holiday Courses, to do good service to English (and, if occasion offers, also to American) teachers, the committee do not limit their view to this work, which indeed can only be regarded as an introduction and preparation for more serious studies. They hope to encourage the teachers of the three countries to cross the water and to learn to know one another; to break down the barriers of prejudice and ignorance which lie at the root of our failure to teach the language of our neighbors. When once teachers have begun to go abroad, they will continue of themselves to repeat the process—it will be our endeavor to make the process as easy as possible by collecting and distributing the needful *information and guidance.* We look forward to the time when every secondary teacher will be expected to study for a year in some foreign country before being permitted to teach in his own; when our universities, instead of discouraging a generous exchange with their rivals, will go to the opposite extreme, and will refuse to stamp their students with the hallmark of culture before they have spent twelve months in the lecture halls of a foreign university.

J. J. FINDLAY

RUGBY, ENGLAND

VIII

EDUCATION IN FOREIGN PERIODICALS

A View of England's Educational System

PREPARED BY DR. J. G. FITCH, FOR THE WORLD'S COLUMBIAN EXPOSITION

"England differs from most European countries and from America in having been very late to accept on the part of the state any responsibility for providing the means of public education. It cannot be said even yet to possess a coherent and symmetrical system, such, for example, as that which the forethought of Swiss and German statesmen, of John Knox in Scotland, or of the founders of the New England States created for maintaining a sufficient supply of schools. Its present educational position has been attained by slow degrees, and by means of numerous experiments and compromises. Until the middle of the present century, the only institutions which existed for public education were endowed or foundation schools, and schools established voluntarily by societies or private benefactors. The earlier endowed schools date from the fifteenth and sixteenth, and a small number from the fourteenth century, and had for their main purposes the teaching of Latin and Greek—then the chief, if not the only, accessible instruments of intellectual culture—and the preparation of scholars for the ancient universities. Another large group of endowed schools, dating chiefly from the beginning of the eighteenth century, had for their chief object the education of the poor in the elements of knowledge, and in the 'principles of the Established Church.' Under the name of Parochial or Charity schools, endowed foundations of this type continued until recent times to furnish gratuitous instruction of a humble kind, and often to provide clothing and apprenticeship. In the beginning of the present century Dr. Andrew Bell and Joseph Lancaster aroused by their personal efforts considerable enthusiasm on behalf of popular education, and became the founders of two great societies, the National Society for the Education of the Poor in connection with the Established Church, and the British and Foreign School Society, which

was composed of persons of various Christian denominations, but which sought to make the school instruction Scriptural but not sectarian. Both societies achieved large success in inducing local committees in all parts of the country to establish and maintain elementary schools. In 1839, when, at the instance of Lord Lansdowne, Lord Brougham, and Lord John Russell, the first grants were made by Parliament in aid of public education, it was through the agency of these two societies that those grants were made. A committee of Privy Council was then formed to administer such funds as might from time to time be intrusted to it by Parliament, and in 1846 appeared the first Minutes of Council, framed largely by Sir James Kay Shuttleworth, the secretary to the Department. These Minutes established a system of public inspection, provided for the training and certification of teachers, and defined the conditions under which public aid should be dispensed to the school. Until the year 1870, however, the state made no provision for the establishment of new schools, but simply confined its own action to the administration of grants in aid of such schools as were founded or managed by the two societies and other voluntary or religious bodies. In that year the Elementary Education Act recognized for the first time the duty of the state to provide for all her children the means of instruction. It proceeded on the assumption that the voluntary system existed, and ought to be maintained and encouraged, but that it needed to be supplemented by other provision wherever it proved to be deficient. It enacted, therefore, that in those places school boards should be elected by the ratepayers, and should be charged with the duty of erecting and maintaining such schools as were needed to make the supply of instruction—computed as accommodation for one in six of the whole population—complete. The Act of 1870 further enjoined that in all aided schools, denominational and undenominational alike, parents who objected to any form of religious teaching or worship might withdraw their children from such teaching without losing any of the other benefits of the school. It was also enacted that in all schools provided by local boards, and aided by rates, no catechism or religious formulary distinctive of any particular denomination should be in use. The Education Department was empowered to administer public aid impartially to all public day schools which fulfilled the required conditions as to the qualifications

and number of the staff, the suitableness of the buildings, and the quality of the secular instruction, but was not charged with the duty of inquiring into or regulating the religious instruction, which was in all cases to be given in such part of the day as to leave for every meeting of the school two hours of unbroken secular teaching. Other provisions of the Education Act empowered school boards to frame local by-laws compelling the attendance of children at school, and subsequent Acts have created school attendance committees, to exercise this power wherever boards do not exist. There is now in every part of the country a local authority which, by means of its officers, enforces the attendance of children between the ages of five and fourteen, except those partially or wholly exempted for labor by passing the standard examination appropriate to their age.

"These measures have proved very effective for their purpose. In 1870, the year of the passing of the Education Act, there were in England and Wales 9563 voluntary schools receiving government aid and inspection, with a total of 1,152,389 scholars, and 12,467 certificated teachers. The Parliamentary grant amounted to £464,943. The Report of the Education Department for the year 1891–92 shows that there are now 4,846,891 scholars on the registers, and 3,749,956 in average attendance in day schools, and 51,974 in evening schools; the total number of certificated teachers has risen to 47,823, that of assistants to 23,508, of pupil teachers to 28,131, and of students in training colleges to 3310.

"Of the large additional school accommodation thus provided during the last 20 years, the school boards, in the exercise of their statutory powers, have furnished places for about 2,000,000 scholars, and the zeal of the friends of voluntary schools about 1,750,000. There is now ample accommodation in public elementary schools for five and a half millions of children, or for considerably more than one-sixth of the entire population.

"The funds by which these schools are maintained in efficiency were until very recently derived from three sources: (1) The Parliamentary grant, amounting to £3,434,759; (2) local contributions, either in the form of rates to board schools or subscriptions to voluntary schools; and (3) the fees paid by parents, amounting to about £2,000,000. But in 1891 the Assisted Edcuation Act transferred this last charge,

or nearly the whole of it, from the parents to the Imperial revenue, and gave to all children the right to gratuitous education. It may now be roughly estimated that of the total annual cost of elementary education in England and Wales (£7,813,706), nearly five and a half millions will be paid out of public funds by the Central Department; one million and a half by local rates; and nearly £800,000, or about one-tenth of the whole, by voluntary contributions. The figures for Scotland, which has a separate Education Department of its own, show a similar general result. There are in the primary schools of that country, 680,580 children, or more than 1 in 6 of the entire population, of whom an average of 540,028 are in daily attendance.

"The administration of the English Education Department is intrusted mainly to the Vice President of the Privy Council. Of those who have held this office since its establishment in 1856, the most conspicuous and influential have been Mr. Robert Lowe, afterward Lord Sherbrooke, who introduced the system of assessing the amount of the grant by the efficiency of the school as tested by examination; Mr. W. E. Forster, the author of the Education Act of 1870; Mr. A. J. Mundella, who in 1881 greatly enlarged and improved the educational provisions of the Code, and, in particular, did much to encourage the adoption of the methods of Fröbel and Pestalozzi in the infant schools; and Sir W. Hart-Dyke, under whose administration was passed the Assisted Education Act.

"It is also to the last-mentioned of these statesme[illegible]hat is to be credited an important new experiment in respect of the training of teachers. The Government has long assisted by large annual grants the Normal Colleges—forty-four in number—in which schoolmasters and mistresses are trained for their special work. But these institutions do not supply the whole annual demand for trained teachers, and accordingly the universities of the United Kingdom and the numerous provincial colleges of university rank, which have of late been founded in the principal towns, have been invited to co-operate with the Department, by attaching to them Normal Classes for the special professional training of such of their students as desire to become elementary teachers. In this way the supply of persons who have received a liberal education, and who have also been specially trained in the art of teaching, will be greatly increased.

"It will thus be seen that the whole of the provision for the elementary education is now aided and controlled by the state. But hitherto no public aid or supervision has been extended in England to secondary education. The provision of secondary and intermediate schools consists mainly: (1) of endowed foundations, usually called grammar schools; (2) of proprietary schools established by societies, companies, or other local bodies; and (3) of private schools. Of these, the schools of the first class only can be regarded as in any sense within the purview of the Government; for the Charity Commission, which is a permanent Department of the state, is intrusted with the power of framing schemes for the government of all endowed schools, and of determining their educational character.

"Many recent facts in our history, however, indicate that the sphere of public influence over secondary instruction is widening, and is likely to be further enlarged. In Wales an Intermediate Education Act (1889) is already operating beneficially, in co-ordinating the work of the secondary schools. In Scotland, the influence of the Education Department has extended to institutions considerably above the rank of elementary schools. The Local Taxation Act of 1890 for England and Wales set free a large annual sum derived from liquor licenses and placed it at the disposal of the County Councils for the promotion of technical and secondary instruction. At present a large portion of this sum is being expended in encouraging such forms of science teaching and of handicraft as have a more direct bearing on the local industries; but much of it will doubtless become available for other forms of advanced education. Treasury grants have recently been made to provincial colleges in the largest industrial centers. A Select Committee of the House of Commons has recommended the enactment of a measure for the registration and better qualification of secondary teachers; and a Bill empowering municipal bodies to establish, with the aid of local rates, secondary schools wherever they may be needed, was framed and introduced into the late Parliament by Mr. Arthur Acland, the new Vice President of the Council.

"Among the questions still under consideration, and on which Parliament and the public will probably, ere long, express a decisive opinion, are: (1) The enlargement of the powers of the Education Department under a responsible

Minister of Public Instruction, so as to bring into harmony the various agencies for primary, secondary, and university instruction, at the same time leaving large scope for local effort and initiative, for varied types of schools and for the liberty of teaching. (2) The provision of such links between all institutions for public instruction as may enable scholars of promise to proceed from the elementary to the secondary school and thence to the university. (3) Better provision for the professional training of secondary teachers, analogous to that which has proved so valuable in the department of elementary instruction. (4) Such publicity respecting the aims and successes of secondary and higher schools as may enable parents to know their condition, and to choose what will suit them best. (5) The right place of manual and industrial training, and of practical and experimental science, in the scheme of general education; and the relations in which such training ought to stand to the traditional discipline in languages and to intellectual culture generally. (6) The best means of enlisting the co-operation of local and academic bodies with the Government in the maintenance of a high ideal standard of education, and in its improvement from year to year."

IX

DISCUSSIONS

IS GREEK DEAD?

While Mr. MacMullen's communication on this subject in the EDUCATIONAL REVIEW[1] may have been intended to interest simply, many readers will undoubtedly understand it to support a thesis. If he did not mean to argue that modern Greek, or the modern pronunciation of Greek, should be taught in our schools, it will be so easy to draw that conclusion from his article that one may be pardoned for following it with some suggestions based on that inference. In speaking of modern Greek it should be remembered that those who use the term may easily have in mind different things. There is some very good authority for asserting that the Greek which has *survived* as a living language corresponds very nearly to the description which Mr. MacMullen heard *consule Planco.* Here is the statement of one who has been said to write the best Greek that has been written in the last thousand years:

"*Under Turkish rule the spoken Romaic had become much barbarized. Except at a few centers it had become little better than a patois with local forms.*"[2]

An American scholar[3] has spoken in still stronger terms: "*There has been . . . certainly no less disturbance in the transmission of language from invasion, slavery, and centuries of barbarism in the case of Greece than in that of Italy and Germany.*"

The Greek that has been *revived* within a few years past is a different thing. It would be largely a question of words to discuss whether it can properly be called a "living" tongue or not; but there need be no mistake about two matters: this language of Mr. MacMullen's teacher and the Smyrna newspaper, the language to which Professor Goodwin refers in the passage quoted, has not been alive since classical times, and could not have preserved its pronunciation if it had been. It

[1] IV: 492.
[2] R. C. Jebb in appendix to Vincent and Dickson's *Modern Greek*, 1881.
[3] L. R. Packard in *New Englander*, Vol. 30.

does not take a very profound knowledge of the science of language to know that the more truly a language is "alive," the more certainly it changes. It would take more evidence than Mr. MacMullen adduces on all his points, to prove the *possibility* of such "an unparalleled fact of history," to say nothing of rebutting the evidence presented by those who deny the fact.

Understanding then by modern Greek this revived Greek, and omitting for the moment any consideration of the pronunciation, it may interest those who have thought of studying or teaching the language to read the testimony of other experts. Here are some whose ability to compare the ancient and the modern forms of Greek, and whose opportunities of knowing what the latter really is, are not to be pronounced inferior to Mr. MacMullen's or Professor Goodwin's. They may serve to suspend judgment, even if they cannot reverse the decision.

"*It cannot with truth be maintained that ancient Greek, the Greek of Xenophon, or of the New Testament, or of Lucian, is really a living language to-day. All that can be said is that there is going on a vigorous attempt to revive it in daily use among those who have the modern Greek or Romaic as their vernacular. Whether that attempt will succeed or not is still an open question.*"[4]

"*The spoken language of the lower classes is still the vernacular Romaic; that of the educated varies in purity according to circumstances. For the sake of being more intelligible an educated Greek will use the literary idiom more largely in conversing with a foreigner than he would with a Greek. General statements on this subject are to be avoided, since there is really no accurate guage.*"[5]

"*The educated and half educated Athenians, and especially the newspaper writers, are engaged in a frantic attempt to back their unwilling vernacular off toward a supposed classical stage (of which they have no real conception) at the rate of about a century a year. . . However delightful and intelligible this jargon may be to the sentimental pilgrim to Athene's shrine and Paul's pulpit, it is utterly meaningless to the honest native mechanic, tradesman, and sailor.*"[6]

[4] Jebb, *ut supra.*
[5] Packard, *ut supra.*
[6] W. C. Lawton in *Atlantic Monthly*, September, 1885.

The value of the literature produced in this dialect, the study required to master it, its usefulness to the traveler or man of culture (as distinguished from a specialist), are other points that can profitably be considered in the light of the articles referred to here.

It might be pointed out, moreover, that Mr. MacMullen's experience and Professor Goodwin's statement are each in their way too limited to serve as the basis for sweeping conclusions about the language. Might not the Smyrna newspaper have been printed in "that newspaper Greek which is cultivated at Athens for the special edification of foreigners?" And Professor Goodwin limits his comparison of revived Greek with Xenophon's idiom, to "the forms of words." Even a Demosthenes, it is stated, would have to spend an hour in mastering "the forms and constructions," besides being puzzled by "modern ideas and new forms of thought." Mr. MacMullen also noticed "clumsy auxiliaries." Now it is not altogether clear how the two languages which differ in grammatical apparatus, in syntax, in the meanings of words, and generally in subjects of thought, can be *the same* in any other sense than Professors Moore and Anthon would have cheerfully admitted them to be. Sameness is susceptible of many definitions; but it is not usually thought that a jack-knife which has had a new handle and a new blade, has kept its identity unimpaired.

But after all, if modern Greek is the same as ancient Greek in any practical sense, then the reverse is true. Our scholars are already fitted to read the *βρεττανικὸς Ἀστήρ*; to enable them (*à la* De Quincey) to harangue an Athenian mob it only remains to adopt the "undoubtedly correct pronunciation" which has been preserved by some phonetic miracle. It is not easy to see how the most robust faith in this wonder can survive the abundant, minute, and weighty criticisms which have been urged against it since the time of Aldus Manutius until now. Perhaps the only mind that can do it successfully is one that has for years believed that such men as Blass in Germany, Jebb in England, Gildersleeve in America, are ignorantly or obstinately using a *fanciful* pronunciation, discovered or invented or evolved from his consciousness by a very learned man named Erasmus. It is not necessary to know how Plato or Lysias spoke to feel certain that they could neither understand nor be understood in King George's capital. Nor does it require any extensive philological lore to supplement Mr. Mac-

Mullen's statements on this subject, or point out that they do not apply to present conditions. If, for instance, any text-book, or school, or teacher is still *ignoring the written accents* in pronouncing Greek, the name ought to be given as a matter of curious information. Those who have learned Greek within this generation will probably run some risk of not understanding what Yale has "followed suit" in, and in what respect Professor Merriam has wheeled Columbia into line; so entirely has such a method been abandoned. If there is evidence to the contrary, however, it would certainly add to the interest to cite it; or some proof for the implied assertion that the change was due to the influence of modern Greek. As to the *nature* of the accent, the commonest manuals[7] assert that it was a matter of pitch, or in other words, resort was had to a kind of "intoning or musical recitation."[8] Modern Greek does not reproduce that element or respect ancient quantities any more than schoolroom Greek.[9] It is equally faulty in sounding all the accents alike.[10] The breathings[11] have no value whatever in the present form of the language; yet it is by no means admitted that *h* was not sounded in the classical period, however much misplaced.[12] (Whatever, too, Herodian may say, modern authorities trace the sign for the rough breathing far back of Aristophanes of Byzantium.[13]) But granting that the nature and the position of the accent had remained unchanged, they could not have prevented, though they might have influenced, changes in sound. Any monograph on this last subject will furnish abundant evidence, not indeed that our pronunciation is correct, but that the claim of the modern pronunciation cannot be conceded. If, for example, the testimony of the dogs be rejected, and rushing water be thought non-committal, *revenons à nos moutons.* Were Greek sheep[14] (like Elizabeth Stuart Phelps' story-children) in the habit of crying *Vee, Vee?* That the modern sounds displease our ear would be a minor objection, though it may be noted that so

[7] Hadley-Allen, § 95; Goodwin § 107.

[8] Blass-Kühner: "Die griechische Betonung muss als eine musikalische aufgefasst werden."

[9] Vincent and Dickson, § 5, 1. [10] Id. 6, 5. [11] Id. 13, 8.

[12] Blass, *Pronunciation*, § 25.

[13] Roberts, *Manual of Greek Epigraphy*, § 103.

[14] Kratinos, fr. 43, Kock: ὥσπερ πρόβατον βῆ, βῆ λέγων βαδιζει. No Delphic oracle was ever more disputed than this ovine utterance has been, from the days of the Ety. Mag. until now.

good a critic as Dionysius said that the sound which is now so frequent in the language, was to him the least pleasing of all the vowels. It is a much stronger objection from a pedagogical standpoint that the new pronunciation would introduce a confusing resemblance in words, and make the mastery of Greek spelling approximately as hard as French or English. After all the condemnation which scholars of this century have visited upon the latter—the "lying, roundabout, puzzle-headed delusion" of Lord Lytton—it is strange and disheartening to hear it proposed to produce something like it in Greek, unless we "condemn ourselves"!

Nevertheless there may be good reasons for teaching modern Greek or its pronunciation. A report of its result from one who has tried the experiment would be a valuable contribution. But let it be clearly seen and stated that it is a pedagogical expedient and not a philological necessity. If on trial it is found to create or stimulate or preserve the average student's interest in an interesting race and a marvelous literature, then no cost, short of ignoring the truth, will be too great to pay for it. Yet because for practical purposes we prefer a live dog to a dead lion, we need not shut our eyes and maintain against all comers that our clipped poodle is a genuine specimen of the *Felis leo*.

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X

REVIEWS

Studies in Secondary Education—Edited by ARTHUR H. D. ACLAND, M. P., and H. LEWELLYN SMITH, M. A., B. Sc., with an Introduction by JAMES BRYCE, M. P. New York: Macmillan & Co., 1892, pp. xxviii, 330. Price $1.75.

This book consists of a number of essays by different authors. Its object is to trace the progress of secondary education in England from 1868 up to the present. It takes as its starting point the elaborate report—its appendices fill twenty-one volumes—on secondary education presented by the Schools Inquiry Commission in 1868. It then seeks to ascertain the ground traversed since that time by two methods: (1) by following "the course of legislation and administration since 1868"; and, (2) by selecting certain districts and describing the condition of secondary schools in them.

The Report of the Commission not only aimed to present a picture of secondary education as it was in 1868, but to indicate the ideal toward which, in the opinion of the commissioners, "a well-organized system of secondary education ought to aim." They thought that in all secondary schools the three chief subjects should be language, mathematics, and physical science, and of these three they thought most stress should be laid on language. "Nothing," they said, "appears to develop and discipline the whole man so much as the study which assists the learner to understand the thoughts, to enter into the feelings, to appreciate the moral judgments of others." They thought Latin preferable to any other language, because of its character as a language, and of the light it throws on English, and of the help it gives in learning other languages.

The total number of endowed schools—the original provision for higher school training—in 1868 was 782. They varied in wealth from a foundation like Christ's Hospital, with £42,000 a year besides buildings, to those with a schoolroom and £5 a year or even less. They were educating less than 37,000 boys, while, according to the estimate of the commissioners, the number of boys requiring secondary education might be supposed to be 255,000.

The endowed schools were not only inadequate in number but as a rule they were not giving their pupils the kind of education they required, for many of them were purely classical schools. Of the 209 classical schools, little more than one-third sent one boy a year to the universities, and many of them did not send a boy once in three years. "On the whole," the commissioners report, "the instruction in the endowed schools is very far removed from what their founders could have anticipated, or from what the country has a right to demand. . . This unsatisfactory state of secondary education is the natural consequence of the clearly proved absence, in a large number of cases, of the conditions of educational success. Untrained teachers, and bad methods of teaching, uninspected work by workmen without adequate motive, unrevised or ill-revised statutes, and the complete absence of all organization of schools in relation to one another, could hardly lead to any other result."

Governing bodies rarely interfered unduly with the schools under their control; neglect of them was much more common. One school was under five trustees who had not met for five or six years, and such a case was not rare. The mastership of one endowed school was given to a deaf man who had kept a private school near by because "it was feared that if a competent man were put into the school, poor ——'s school would be ruined!"

I have not space to trace even in outline the progress of secondary education since 1868. Those who are interested in the subject will find it set forth in a very painstaking and suggestive way in the book before me.

J. P. GORDY

ATHENS, O.

The History of Early English Literature, being the history of English poetry from its beginnings down to the accession of King Alfred—By STOPFORD A. BROOKE. New York: Macmillan & Co., 1892; pp. xii, 500. Price $2.50.

The old-fashioned view, which still lingers, however, as a popular notion, that English literature begins with the name of Chaucer, "the well of English undefyled," is happily dying out; and the true continuity of our literature has been recognized as extending unbroken from the days when the Saxon conqueror sang his rude snatches of song as he landed upon the shore of Britain, down the long avenue of time to England's late poet laureate. Few books could be better adapted

to bring out this point than the work under consideration, which, in the words of the preface, is "a tale of the origins of English verse." The volume is the first of a series designed to trace the history and development of English poetry; and the author, it may be added, has made a worthy beginning.

After a brief introduction on the scope, purpose, and method of the work, Mr. Brooke draws attention to the precious manuscripts which have preserved for us our poetry before the accession of Alfred the Great, and which form the source of our information regarding the beginnings of English literature. But he goes still further back than the Teutonic Conquest of England, and emphasizes the continental origin of our literature; the lays of Widsith, Deor, and the Scop, belong to the early English not first after their settlement in Britain, but were brought with them from the Low Dutch lands and from Denmark, as the author observes in the opening chapter (p. 11). This prepares the way for an extended discussion, in some eighty pages, of England's oldest epic, the *Beowulf*.

In his treatment of *Beowulf* the author upholds the claim of the distinctly pre-insular origin of the poem; but he favors the assumption that it "arose into shape" in Northumbria (p. 14, note). He acknowledges that there are insertions in the epic, and that various elements are to be recognized; but he comes to the general conclusion that "however many ballads and lays may have been used by the writer, the poem was composed as a whole, with one aim, and by one poet" (p. 58).

The episodes of the *Beowulf*, and the cycles of songs which are embedded in it, "lay after lay, like fossil after fossil," as the author expresses it (p. 75), receive full consideration in two chapters. The treatment of the historical, legendary, popular, and mythological elements in the poem, appears to be marked by the fairness and moderation in judgment that characterizes the whole book. The desire throughout seems to be to present the main views on a subject, rather than to advance or force any specially new theories. A suggestion, however, like that offered at p. 70, note, to explain the "Iopas-passage" (if I may so designate the burden of the bard's song) in *Beowulf*, ll. 92–97, as a piece possibly taken from lost lines in the missing pages of the MS. of Cædmon's *Genesis*, is perhaps more ingenious and attractive than credible.

With the *Fight at Finnsburg* and one or two other fragments to be connected with *Beowulf*, the author bids adieu to

what we may with him regard as pre-insular poetry. Nearly two hundred pages of the book are then devoted to the characteristics of the early English folk, the conquest and settlement of Britain, and finally, to the introduction of Christianity into Britain and the rise of literature in Northumbria. These chapters are well designed to give a truer appreciation of early English poetry, and to prepare for a better understanding of the birth of the father of English song—Cædmon.

Without enumerating all the wearisome theories and conjectures that center about the name of Cædmon, the author at once brings forward the two main points to be considered in connection with the Junian manuscript: first, the question whether we may impute any of the poems found in it to Cædmon; and second, the merit of the poetry itself. The result reached with reference to the first inquiry is that it seems "probable that we have in this manuscript, along with poems written by other persons, some at least of the verses of Cædmon" (p. 281). Mr. Brooke also finds evident pleasure in dealing with the Milton-Cædmon question, the sum of which in his opinion is this: "all we can say then is, that Milton, it is likely, heard the [Anglo-Saxon] *Genesis* translated to him, and that he got from the writer a suggestion or phrase, here and there, which he used as he would use a suggestion or phrase from Dante or Spenser. But nevertheless, we may well imagine the romantic interest the old man would have when, sitting in some summer parlor, he listened to the song a thousand years old, which the first poet of his race had sung concerning his own subject of 'Man's first disobedience'" (p. 282).

As a fair specimen of Mr. Brooke's method of rendering the Old English verse may be taken the opening of the Cædmonian account of creation—"darkness was upon the face of the deep":

> Nor was here as yet, save a hollow shadow,
> Anything created; but the wide abyss
> Deep and dim outspread, all divided from the Lord,
> Idle and unuseful. With His eyes upon it
> Gazed the mighty-minded King and He marked the place
> Lie delightless—(looked and) saw the cloud
> Brooding black in Ever-night, swart beneath the heaven,
> Wan and wasteful all, till the world became.'

The so-called "Genesis B," or the Sievers interpolation, is discussed at some length; the author has also a suggestion to

put forward with regard to the relation of this part of the poem to the Old Saxon *Heliand*. His supposition, which has points of resemblance to one maintained by Schmeller, may interest the reader enough to look the matter up (p. 302); but Mr. Brooke does not seem to have much sympathy with such guesses, for he says it is "a mere conjecture, but then conjecture runs riot over this subject" (p. 302 note); and again when dealing with the *Exodus* he breathes a sigh of relief that "we are spared [the assumed authors] A, B, and C, and all their tribe," as this poem is regarded by scholars as a unit and the work of a single author, whether Cædmon or not (p. 315). Furthermore, regarding the "dreary poem" *Daniel*, the author thus expresses himself: "how anyone in the world can say, as some have said, that the *Daniel* was written by the same poet who wrote the *Exodus* or the *Genesis*, passes belief" (p. 325). These few sentences will fairly show the attitude he takes regarding this question in Early English literature.

Passing over a number of chapters in which the minor poetry is dealt with, it may be well briefly to consider the author's treatment of Cynewulf. To Mr. Brooke, Cynewulf is a Northumbrian; and from the data which scholars have brought together to construct a life of the poet, ever since Kemble discovered the verses containing Cynewulf's runic signature, he has culled those facts which may reasonably be regarded as certain or known. On the other hand, while he does not pass over the more or less imaginative or uncertain inferences that have been drawn regarding the poet's life and character, he is careful to distinguish them as conjectural, possible, or plausible. He has, however, a theory of his own to offer regarding a certain phenomenon to be observed in the development of the style of this poet converted to Christianity. In the *Elene*, Cynewulf, now advanced in years, shows a greater artistic grasp combined with a marked freedom or even boldness in introducing old saga-phrases of warfare, or pagan elements, when dealing with Christian subjects, which is not observed in his other signed poems. Something smiliar is to be noticed in the two parts of the *Guthlac* attributed to Cynewulf. Mr. Brooke's theory (pp. 382, 409) is this: "As long as Cynewulf was troubled in mind about his sins, lately joined to the band of converted sinners, he kept his poetry clear of all heathen phrases, of all forms of heroic poetry; and this may have been urged on him by the pious who dreaded his relapse. But when his soul was

fully at rest, as we leave it in the *Christ*, his original bardic nature resumed its sway. Certain now of God's love, full of faith in redemption, he is no longer afraid to use the phrases about war and the passion of war, which his forefathers used. He no longer limits his inventiveness to sacred things, nor fears to let his imagination play at ease. The heathen ornaments and illustrations, the epic manner of *Beowulf*, are now brought in to enliven Christian stories. It is as if the old man loved to sniff again the breath of pagan war, as if the very sound of the stock words used by the Scōp in a song of battle had pleased him as much as they pleased him in his youth. This is a wonderful resurrection, and the *Elene* is written in the air of its morning."

In his treatment of the passages containing Cynewulf's runic signatures, Mr. Brooke has had the advantage of Gollancz's edition of the *Christ*. Of the unsigned poems in the Exeter and Vercelli books, he agrees with those who are willing or anxious to assign to Cynewulf the *Phœnix*, *Rood*, and perhaps even the whole of the *Guthlac;* but agreeable as it might be, he is not yet prepared to accept Gollancz's suggestion that the *Fates of the Apostles* is the epilogue to the *Andreas*, although he thinks it "extremely likely that the *Andreas* is by Cynewulf," but that "we have as yet no evidence for that opinion" (p. 487).

The closing chapter on "The School of York" clears the way for the rise of literature in Wessex and for the literary work of Alfred the Great, the founder of English prose, which is to form part of the author's second volume. There is an appendix of some fifty pages, devoted to discussions which were too long to embody as notes in the text. The map and the indexes, for which the author is indebted to Miss Kate Warren, add to the usefulness of the volume.

Special mention in closing must be made of the rhythmical renderings of the early English verse which the author has so abundantly given. As shown by the quotation given above, he has aimed at following the original with exactness as far as possible, and for the most part line for line and with an attempt at preserving the alliteration. Characteristic selections are made from every poem; from these extracts, even the general reader who has never studied Anglo-Saxon will form a fair idea of the character, style, and spirit of the original, and may be led to a desire for a more intimate acquaintance with the

early monuments of English verse. Throughout all the book, moreover, the author shows a good knowledge of the literature on the subject, especially the German contributions; and the enthusiasm and sympathy with which the work is written should do much to kindle new interest in "the neglected lands of early English poetry."

A. V. WILLIAMS JACKSON

COLUMBIA COLLEGE

Darwin and After Darwin, An Exposition of the Darwinian Theory and a Discussion of Post-Darwinian Questions (Vol. I, The Darwinian Theory)—By GEORGE JOHN ROMANES, M. A., LL. D., F. R. S. Chicago: Open Court Publishing Co., 1892, pp. xiv., 460. Price $2.00.

This work by Professor Romanes is the latest of many handbooks of evolution which have been offered to the general reader and student in recent years. It has been criticised somewhat severely upon the score of inaccuracy and lack of freshness in certain details, such as the free use which the author makes of Haeckel's interesting but loosely written works. But these defects are really of minor importance, offset as they are by a great mass of well-arranged material from all English sources, accompanied by many original and very well selected illustrations.

The author's specialty as a biologist is the comparative physiology of the nervous system and animal psychology. His researches in this field have given him considerable training and breadth of view as a biologist, which, combined with his philosophical spirit, renders him unusually strong upon both the physical and metaphysical aspects of evolution. Herein lies the chief value of the work—its combination of these two elements. As Professor Romanes says in the Introduction: "This is merely a popular exposition of what is meant by evolution, especially as viewed by Darwinians; the purpose of the book is didactic rather than controversial; while the second part will be wholly controversial in character."

Viewing the book in this way, I must mention one or two defects. The author does not give a sufficiently clear statement of Lamarckism, or the theory of transmission of acquired characters, which was a part of Darwin's own later teaching, and as a teacher he exhibits somewhat too much bias in favor of the hypothesis of the survival of favorable variations which arise fortuitously. The evidence for definite variation is an

important part of the literature of the day, and should have had a fuller statement than is given. However, we are promised a full discussion of the modern form of Lamarckism in the second volume.

The work opens with five chapters upon the evidences for organic evolution, drawn first from classification, then from structure or comparative anatomy. In this chapter there is an extremely interesting section upon the rudimentary or vestigial structures found in the anatomy of man. The treatment is very convincing, and the reader can hardly fail to appreciate the full force of the Darwinian view of descent. The English have rivaled if not surpassed the Germans in the investigation of the evidences of human evolution, and the recent instantaneous photographs, taken by Dr. L. Robinson, furnish most amusing as well as convincing proofs of arboreal ancestry. The chapter on embryology contains the Haeckelian errors above alluded to; this and the final chapter on paleontology are the least satisfactory of the whole series.

After leaving evolution as a fact, the author takes up the factors of evolution, and in this work considers mainly the great Darwinian factor of natural selection. He is well known in the pages of the English reviews as having maintained that natural selection is primarily the theory of the origin of adaptations rather than that of species. This point is renewed and sustained in this work. It has opened the author to the criticism that he considers Darwin the originator of the theory of the origin of adaptations, and Romanes as the originator of the theory of the origin of species. The two final chapters take up the criticisms of natural selection, and handle them as well as they can be handled with our present indefinite knowledge of the causes of variation in the world of plants and animals.

Altogether the book is certainly the best brief exposition of the subject of evolution of life to which one can refer beginners. There is still room and need for an even more exact and carefully written work than this. The subject is now coming so constantly before students in all branches of biology that they require a reference work early in their course.

HENRY F. OSBORN

COLUMBIA COLLEGE

Introductory Modern Geometry of the Point, Ray, and Circle—By WILLIAM B. SMITH, Ph. D., Professor of Mathematics and Astronomy in the University of the State of Missouri. New York: Macmillan & Co., 1892, pp. 143. Price 75 cents.

Professor Smith has collected in a little book of 143 pages those propositions of the first four books of Euclid which are essentially descriptive, or non-metrical, and has added thereto some of the elementary parts of the modern theory of the triangle. He calls it modern geometry, but only a small part of it is really modern. Its innovations consist in the introduction into elementary geometry of the principle of duality or one-to-one correspondence as applied to figures in perspective, and in the assumption that figures in a plane may be rotated out of the plane and back again, for the purposes of demonstration. A considerable number of the propositions of the first four books of Euclid deal with congruent figures, and applied to such figures perspective becomes symmetry with respect either to an axis or a center. The principle of the one-to-one correspondence is thus introduced in an extremely simple form, comprehensible even to quite young pupils, and undoubtedly many of the propositions of Euclid are greatly simplified by its use. The book does not go beyond the application of the principles of projective geometry to symmetrical figures.

Its method and scope may also be fitly described as substantially those of Professor Henrici's *Elementary Geometry*, published thirteen years ago, and like that work it is evidently intended as a school text-book and is to be followed by a second part.

That the new method recommended by Professor Henrici has not found favor in England, and that the demand for a work setting it forth has been so small that the second part has never been published, do not constitute as yet a test of its importance as a proposed substitute for the Euclidean model; for while on the Continent and in America Euclid has given place to his "modern rivals," in England he has successfully withstood them all, and it was not to be expected that a change more radical than any that had been previously proposed would be accepted without more vigorous indorsement than any it has as yet received.

But beyond the personal indorsement of authorities, however excellent, we must have a practical demonstration of the utility

of the new method in the form of an appropriate sequel to the books now at hand; and it is unfortunate that Professor Henrici did not have the opportunity of giving it to us in his proposed second volume, which was to have treated of areas, of skew-symmetrical figures obtained from axial symmetry "by drawing the lines joining corresponding points not perpendicular to the axis," and of similar and similarly placed figures, "obtained from central symmetry by dropping the condition that corresponding points shall be equidistant from the center." If Professor Smith's second part is to follow speedily and is to embody these topics as part of its subject-matter, we may perhaps be compensated for the delay, for Professor Smith writes ably.

Before we can test the value of Part I as a text-book we must therefore await the publication of Part II, without which, by the continuation and further application of the method of projective geometry, the value of that method as applied to elementary geometry cannot be fully appreciated.

The principles that have to be asserted in order to establish the foundations of Euclidean geometry have been for the most part clearly stated in the introduction, pp. 1–22, and in the theorems and axioms of pp. 50–55—an achievement so rare in elementary text-books that it merits special commendation. But even this otherwise well-ordered exposition falls just short of completeness by failing to point out what the necessary and sufficient axioms or postulates of plane geometry are. We know them to be four in number. In Clifford's nomenclature they are:

The postulates of (1) Continuity, (2) Elementary Flatness [Amorphism], (3) Superposition, (4) Similarity.

Two or three additional pages at Art. 71 would have sufficed to make clear this important question, where a clear presentation of it would have added significance to the author's remarks about "Hyper"-Euclidean geometries.

Professor Smith indulges his fondness for the use of strange terms to excess, and such excess is unfortunate in an elementary text-book. Why are we called on to replace *perigon* by *round angle*, and *internally* and *externally* by *innerly* and *outerly*, *complete quadrilateral* by *general quadrilateral*, etc.? Such variations in nomenclature, however, if not accompanied by ambiguities, are not serious matters. But it is otherwise when terms already in use with distinct meanings are con-

founded. On p. 63 the 4-side is at first correctly defined as a complete quadrilateral, but this definition is quickly abandoned and the 4-side is afterward a simple quadrilateral; an *n*-side is likewise a simple multilateral, an *n*-angle (*n*-point is the more common term) is a simple polygon, and finally, to make the inconsistency entirely apparent, on pp. 133 and 143 the plane figure composed of six sides and six vertices is a 6-side, but on p. 138 it is a hexagon. The accepted definitions of *n*-side and *n*-point are:[1]

An *n*-side is a system of *n* rays together with their $\frac{1}{2}n\,(n\text{-}1)$ points of intersection.

An *n*-point is a system of *n* points together with the $\frac{1}{2}n\,(n\text{-}1)$ rays that pass through them two and two.

Where clearness is easy, confusion is intolerable. The book is appropriate for high schools, but Part I constitutes only about half the amount of work in plane geometry good high schools are accustomed to do. It contains 79 theorems, 18 solved problems in construction, and about 150 exercises without hints for solution, but mostly quite easy. High-school pupils need a somewhat more vigorous diet than that offered by these exercises. The book has neither preface nor table of contents. Its mechanical execution is excellent.

Professor Smith wields an attractive style and has produced a book whose merits are far greater than its defects, and teachers especially will find much valuable suggestion in it.

IRVING STRINGHAM

UNIVERSITY OF CALIFORNIA

Studies in American History—By MARY SHELDON BARNES, A. B., and EARL BARNES, M. S. Boston: D. C. Heath & Co., 1892, pp. x., 431. Price $1.12.

The aim of this book, as of Sheldon's *Studies in General History*, is "to train the pupil to think for himself, and enter into living sympathy with others, by giving him as material for his work *historical sources*, that is, the first original records of the eye-witnesses, actors, and makers of each period he studies." Instead, therefore, of being a continuous narrative, the work is a collection of extracts from the works of (for example) Captain John Smith, Cotton Mather, James Otis, Thomas Jefferson, Daniel Boone, Henry Clay, Jefferson Davis, and other representative men. Poems, speeches, letters, pic-

[1] See *Encyclopædia Britannica*: Article on Geometry, Section II, § 43; and Cremona: *Projective Geometry*, p. 30.

tures, newspapers, books, etc., furnish the materials out of which the pupils are to construct their own ideas of the history of the United States. Scraps of narrative and explanatory remarks sufficient to make a sort of connecting thread between the extracts are inserted, but the extracts themselves form the body of the work.

Waiving for the present the question whether this plan of teaching history is based upon sound principles or not, I must pronounce the execution of the plan very satisfactory. Extracts from no less than 423 books or other publications, stretching from Homer's *Odyssey* to the *New York Times*, are given; and I think that both industry and good judgment have been displayed by the authors in selecting and arranging their quotations. Especially to be commended is the fairness with which—on the whole—the opinions of men on both sides of disputed questions have been presented. It is not concealed, for instance, that among the causes that led the Indians to take up arms against the Puritans was the fact that the latter "made them drunk and then cheated them in bargains." A good opportunity, too, is given the pupil to see what a veritable reign of terror was exercised over their Tory fellow-citizens by the "Sons of Liberty," who, claiming for themselves the right of rebellion against the legal decrees of the Imperial Parliament, saw fit to tar and feather those Americans who refused obedience to the illegal behests of the Continental congress.

Another feature of the book which is in harmony with the general plan is the frequent lists of questions to be solved by the pupil after studying the extracts; and it will hardly be denied that these questions are well chosen.

So much for the good points of the book. But, when I come to examine its aims and the fundamental principles upon which it is based, I am inclined to regard the work as a mistake. To state fully the grounds for this opinion it would be necessary to write a treatise on the general theory of education. But even in a brief article like this it may be possible to indicate the reasons for an unfavorable verdict.

In the first place, then, it seems well to insist that, even in the same country and century, there should be no cut and dried methods of education for pupils of different ages, conditions, and sex. Stated in these general terms this would seem to be a truism. And yet there is a very widespread notion at present that the one end and aim of education is to teach

pupils of any age, condition, or sex to think for themselves and have opinions of their own on any imaginable subject. A very prevalent fad in American colleges is the shallow imitation of the "seminary" method of instruction in the German universities. In Germany itself the students taught by this excellent method have not only done work at a "gymnasium" which is more than equivalent to the B. A. course of an ordinary American college, but have generally heard university lectures for a year or two before being admitted to the seminary. And yet many American instructors imagine that this method, which is in reality suited only to advanced students in special lines, is applicable not only to collegiate undergraduates but even to the pupils in elementary schools. Much declamation is indulged in against the habit of memorizing the contents of text-books, while the supreme importance of "original investigation" is proclaimed from the housetops.

Now I do not dispute the fact that even children should be allowed to use their reasoning faculties and to exercise their judgment; but I deny that the cultivation of these faculties should be the *chief* aim of the teacher of young pupils. It is doubtless perfectly true that, just as hothouse plants can be forced into a rapid growth, the power of judgment can be greatly stimulated, even in young pupils, by the study of such a book as Sheldon's *American History*. But hothouse plants are not hardy plants, and if the reasoning faculty of the boy be premature and artificially cultivated, it is not probable that the man's intellect will ever attain its full stature and strength. The memory and the imagination are faculties which in the order of nature develop sooner, and should therefore be cultivated and trained sooner than the judgment. The method of historical instruction for advanced university students is, therefore, not the method for schoolboys. The best text-book for the latter is not the one that encourages chiefly the exercise of independent judgment, but the one that gives the most vivid and thrilling narrative of historical facts selected with special reference to their being *interesting to boys*—facts that will, therefore, be easily remembered, and that will fire their imagination and stimulate their interest in historical study. Many of the facts given in the book that I am discussing would unquestionably be of great interest to boys; and the book is to that extent decidedly to be commended. It is also entirely right and proper to make frequent quotations from

the original sources. But their value is, not that they teach the boys to "think" for themselves, but that they lend vividness, life, and reality to the narrative. Incidentally it will be well enough for the boys to do as much thinking as would naturally occur to them, but the main thing is for them to *learn* what is in the book, and to gain from it a keen desire to learn more. Sheldon's work could therefore be greatly improved by omitting those extracts which treat of questions not likely to interest young pupils, and inserting others more suited to the purpose.

The fundamental conception of the work is based upon a psychological blunder. Moreover, there is a moral objection to it as well. Lack of reverence is already a characteristic feature of the American character, and the omniscience of college graduates already a fruitful theme of caricature. Shall these evils be deliberately increased? Do not the colleges already turn out a sufficient number of conceited sciolists who imagine themselves original thinkers and investigators? Or shall we labor to increase the number? The answer is that it will be better to inculcate, at least in young schoolboys, greater respect for the opinions of their elders than to puff them up with the vain idea that they are thinking for themselves; better to put into their hands an authoritative narrative, enlivened with a reasonable number of citations from the sources of history, than to let them imagine that they are capable of writing history themselves.

R. H. DABNEY

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Extracts from Eutropius—Edited by J. B. GREENOUGH. Boston: Ginn & Co., 1892, pp. viii, 41. Price 25 cents.

This is the first of a series of progressive pamphlets for learning to read Latin which are to be issued under the editorial supervision of Professor Greenough. The *Extracts* are from Books i, ii, iii, vi, vii, and x, and are accompanied by helpful and stimulating notes printed under the text.

In the brief Introduction the author advocates anew his well-known views as to the importance of endeavoring to read Latin in the Latin order—of acquiring the *Sprachgefühl* of the Romans. While there can be no doubt as to the desirability of attaining this end, and while we all cheerfully acknowledge our indebtedness to Mr. Greenough for the effectiveness with

which he has urged this principle among American teachers, yet it is a serious question just how much is practicable—particularly in elementary stages of Latin teaching. Mr. Greenough, in his *Introduction*, p. viii, declares that the process is the same in Latin as in English, and that "one can easily accustom himself to following the Latin *just as well as the English.*" This seems to me greatly to overstate the possibilities. At least certain facts must frankly be admitted:

(1) The pupil's mind is engaged with Latin but a brief period daily. The rest of the time it is occupied with another and radically different idiom—different not only in the form and signification of its ultimate elements, but also, for the most part, in the methods of combining these elements into sentences. The psychological difficulties of this daily transition from the field of the familiar to the unfamiliar are by no means slight, and cannot properly be ignored.

(2) All who have ever acquired even moderate facility in the use of a foreign language must admit that, in order to feel its idiom as we do our own, we must make its acquaintance through the ear, not merely through the eye. Probably no one ever learns to read French or German in the order of the original who has not first made an intimate acquaintance with these languages through an oral medium. But this takes time, and an amount of time which clearly is not available in our schools.

But it is the special method advocated by the editor that seems to me to give most occasion for comment. Mr. Greenough tells us that "the words must be taken exactly as they come, with the ideas they are supposed to convey, and that they must be *forced* to make a mental picture, whether the order is familiar to us or not."

I think many will call in question the wisdom of any such dynamic process as seems involved in this injunction. It is difficult, moreover, to understand how words can be forced to make pictures for us, when they do not suggest pictures of themselves. Where forcing proves necessary, have we not there the clearest evidence that the pupil cannot apprehend the passage in the order of the original, and that greater familiarity with the language is necessary before such direct apprehension is possible?

Let us not deceive ourselves as to what is possible in the secondary schools. Any real appreciation of Latin form and order can come only as the result of long and patient study.

Let such appreciation be an end—among others—of Latin teaching, and in its pursuit let us utilize every method—particularly oral reading—that may help us to attain it; but let us not emphasize that as the sole end, and above all let us forbear attempting to reach it by artificial processes.

CHARLES E. BENNETT

CORNELL UNIVRSITY

Essays on German Literature—By HJALMAR HJORTH BOYESEN, Professor of the Germanic Languages and Literatures in Columbia College. New York: Chas. Scribner's Sons, 1892, pp. 359. Price $1.50.

The first question one would naturally answer, in writing for the EDUCATIONAL REVIEW a notice of any work, is the query concerning the value of the volume in hand for the specific needs of teachers. In examining, with this query in mind, these brilliant essays of Professor Boyesen, it becomes at once evident that direct text-book, or reference book, use has not been contemplated in its preparation. The book has not, in the first place, the proportion to which a text-book must be restrained. To Goethe are given 148 pages, to the German novel 90, to the Romantic School 60, and to Schiller 30. Then, in the consideration of these subjects individual preference rather than recognized need is apparently shown, for only a few aspects of the topics concerned are treated at length. On these topics the treatment is sometimes too individual to fit the needs of a working division, and the expressions have frequently a frankness which suggests an intimacy difficult to attain, and to maintain, in the formal procedure of a classroom. Moreover, the very breadth of the view would sometimes prove a defect in a workroom. When Professor Boyesen, for example, on p. 217, defines a "novel, in its broadest sense," as "a narrative, either in prose or verse, whose principal object is to entertain," one feels that these limitations of the term "novel" are rather vague for technical work, and that catholicity has dethroned precision. For all these reasons, it is not as a text-book that I shall commend, or disapprove, this work, though in the hands of a skillful teacher it could be made of great use, even in a classroom.

It is, as the title suggests, a collection of original essays, and not a compilation of didactic deliverances, nor a summary of received critical opinions.

Nevertheless this is a work of great value to teachers, and

the advice to them to read it is unreservedly given. In the first place, there is a personality behind it. The views are those of an individual making up his mind for himself. Perhaps very few persons will perfectly agree with all of Professor Boyesen's conclusions. But they are evidently the conclusions of a sane mind, which preserves its balance; and the mind which can do that in treating of the æsthetic and romantic literature of Germany is not common. It is an assistance to intellectual soundness to read a book written by a man in perfect literary health whose sanity is unquestioned, even though his views may sometimes perplex the timid. In the second place, there is never any doubt about the views. The book is as direct, definite, and honest as if it had been a text-book. The haze which gathers as most works on German literature progress, and which thickens into an impenetrable fog before the sunset of the book is reached, is never noted here. The style is clear, the conclusions are definite, and the author knows his subjects. In the third place, the essays traverse useful subjects. The little treatise of twenty pages on "some English translations of Goethe" is really an illustrated discourse on poetry as well as a critical review of the extant translations of Goethe; and the sober treatment of the Romantic School, of the novel, and of Goethe's life and works is good work. I am sorry that Mr. Boyesen did not add an index, for the essays are full of information to which handy reference would be convenient.

Finally, it is worth while, for teachers especially, sometimes to read a book on literature, which, like this, is itself literature. It is the defect of modern methods of literature study that artistic perfection of expression has but secondary consideration with academic critics. To read of German literature in the clumsy constructions of Scherer—either in the original or the translation—or to read of English literature in the pages of Ten Brink, or Morley, is to raise a query if the absolute absence of literary ability be not a prerequisite for a student of literature. And one has a real feeling of obligation to Professor Lounsbury when he puts his *Studies in Chaucer* into graceful and lucid language. For the same literary merit these essays are commended. The style crackles a little under the critical touch, but it is firm and lustrous. It is worth a teacher's while to read the book.

FRANCIS H. STODDARD

UNIVERSITY OF THE CITY OF NEW YORK

A Syllabus on the History of Classical Philology—By ALFRED GUDEMAN, Ph. D. Boston: Ginn & Co., 1892. 50 pp. Price 50 cents.

This outline of the history of classical philology was originally prepared by Professor Gudeman in connection with a course of lectures delivered by him last year at the Johns Hopkins University, and also under the University Faculty of Philosophy at Columbia College. The *Syllabus* is arranged in two parts. The first (pp. 1–4) is devoted to a general introduction in which is traced in outline the historical development of the terms *philologus*, *grammaticus*, and *criticus*, with an indication of the three methods (synchronistic, eidographic, and ethnographic) of treating the author's subject. A condensed bibliography, with quotations and references, is also included for the benefit of the student. The second part (pp. 5–50) takes up the history of classical philology by periods and countries, the general heads being (*a*) the Greek period; (*b*) the Græco-Roman period; (*c*) the Middle Ages; (*d*) the Italian Renaissance; (*e*) France; (*f*) the Netherlands; (*g*) England; (*h*) Germany. These heads are in turn divided and subdivided in the approved German way, so that Dr. Gudeman illustrates in his analysis the three methods of treatment indicated in his introduction, since the history of classical philology in each period or country is treated in the persons of its great scholars, whose names are arranged in chronological order with their works, some of which are analyzed, with a mention of the chief editions. Bibliographical references are numerous both to works of biography and to the history of periods and departments of literature, such as those of Susemihl on the Alexandrian literature, Symonds on the Renaissance, Müller on the history of classical philology in the Netherlands, etc. Occasionally notes and references are introduced to collateral topics, such as those on critical signs (p. 21), on the copying of manuscripts in the monasteries (p. 30), and the list of *editiones principes* (p. 35). By the use of different kinds of type, Dr. Gudeman has attempted roughly to indicate the relative importance of the different names that appear, and also of the various works of each author with regard to their "epoch-making" qualities.

To the student who has heretofore been obliged, in searching for the information that is here so compactly given, to turn over a dozen bulky volumes, from Lersch, Gräfenhan, and Steinthal down to Bursian and Teuffel, the *Syllabus* will come

as a most welcome relief. Dr. Gudeman has performed his work with excellent judgment, ripe scholarship, and a nice appreciation of the needs of classical students, and has done not a little to lighten the labors of lecturers and other university teachers in giving them so complete and well-digested a synopsis to put into the hands of their students. The bibliographical references, including as they do the very latest and best works of recent scholarship, would alone make it worthy of the high place it has already won in the favor of classical instructors.

In classifying and assigning relative rank to so many scholars in so many ages, it is impossible that Dr. Gudeman should not occasionally run counter to the opinion of others, both in what he has inserted and in what he has omitted; though criticism on this head should be made with great reserve. It is natural, however, to feel that more should have been made of Dionysius Thrax, since the whole terminology and treatment of the science of grammar find their immediate origin in the handbook which he prepared at Rome, and which, in the original or in translations, remained a text-book for so many centuries. Some notice at least might also have been taken of the source of the technical terms of grammar: "case," "mood," "number," "person," "declension," "genitive," "ablative," etc. The omission of any mention at all of Nigidius Figulus among the Roman writers on grammar is open to remark when one remembers that Nigidius was ranked by his own countrymen next to Varro. In like manner, one may question the propriety of giving to Muretus, however brilliant as a stylist he may have been, and however great the merit of his lections, an equal place with a scholar like Casaubon. In this case, Professor Gudeman may possibly have been influenced by a desire to eke out the somewhat scanty list of French scholars, who make rather a poor figure in this paper; but if so, that desire was apparently only a passing mood, for he has taken from them altogether the names of Claude de Saumaise (Salmasius) and of J. J. Scaliger to set them down among the Dutchmen, while so remarkable a text-critic as Cujacius (Jacques de Cujas) is not mentioned at all.

That the list of French philologists is one of comparative brevity is, however, a fact that even a disciple of Chauvin could not attribute to prejudice; for the book is simply an illustration of the simple fact that, for a century or more, the records of French classical scholarship have yielded no names

that could by any exercise of the imagination be ranked, one need not say with those of Mommsen and Ritschl, but with those of Heyne and Lobeck. In fact, the remarkable list of Germans, as set forth in the last four pages of the *Syllabus*, forms a galaxy so splendid as to compel the hopeless admiration of French, English, and Americans alike. The plan of the outline excludes the names of living men, but Professor Gudeman has departed from his rule by inserting the name of Mommsen with which the last page ends; and the unique position of this remarkable scholar fully explains and justifies the exception.

Some inaccuracies, typographical and otherwise, are occasionally discernible. The discoverer of the papyri of Tel-Gurob is styled *Flinder's* Petrie (p. 30); and Ruhnkenius figures as Rhunkenius (p. 41). More important are some errors of date, as when Cobet is said to have died in 1888 instead of 1889 (p. 41); and Karl Wilhelm Dindorf in 1871, instead of in 1883 (p. 47)—an error evidently due to the confusion of K. W. Dindorf with his brother Ludwig, but one that is a little curious because of Dr. Gudeman's reference to the *Biographisches Jahrbuch* for 1883. Scholars will also learn with a pleased surprise that Elmsley lived to the remarkably ripe old age of 112 years, if the dates given in the *Syllabus* are correct (p. 43). The prominence of Germany in the domain of classical philology has perhaps inspired the German forms of some of the proper names, as Leiden for Leyden, and Jacob for Jacques (in the case of De Crusque). This is, of course, a matter of no particular importance, except that to the average student such a form as "Odyssee" will seem eccentric, while the identity of Löwen would probably be more readily recognized by him if Dr. Gudeman had written it Louvain. An index to the proper names would greatly facilitate the use of the book; and as it would probably not require more than a single page of space, it should be added in the second edition of the *Syllabus* that is understood to be already in preparation.

The favorable reception given to this synopsis will insure a still more cordial welcome for the larger manual upon which the author is engaged. That no such work has yet been written in our own language is a standing reproach to English and American scholarship, and therefore Professor Gudeman has an exceptional opportunity of which he may be trusted to make the most.

HARRY THURSTON PECK

COLUMBIA COLLEGE

Latin Lessons, designed to prepare for the intelligent reading of Classical Latin Prose—By HENRY PREBLE, formerly Assistant Professor of Latin and Greek in Harvard University, and LAWRENCE C. HULL, Latin Master in the Lawrenceville School, Boston: Houghton, Mifflin & Co., 1893, pp. x, 417. Price $1.12.

In this latest addition to the mass of Latin lessons the authors have produced a book with a real reason for being. While, for reasons stated in the preface, the earlier lessons are not based upon the study of a connected text, the traditional method is so modified that the student is constantly forced to a minute observation and comparison of the facts of the language and to form general laws from instances sufficiently numerous to assure sound induction. The objection may be made that the earlier lessons contain too full a presentation of the paradigms, with too little material for practice; but the defect is fully atoned for by the life and interest with which the form study is invested. A positive virtue is the early escape from disjointed sentences for translation so common to the traditional method.

With proper appreciation of its value, the authors have introduced early a very suggestive treatment of order, which is kept in plain view in the succeeding lessons. With the hundredth page begins the reading of connected prose, with notes on the subject-matter, continuing in constantly increasing amount to the end. The selection of reading material is well made, and is better adapted to the great end of rousing interest in the literature and life of Rome than that contained in the great majority of books of this class. Part II, consisting of extracts from Cæsar, Cicero, Livy, Pliny, and Aulus Gellius, with material for retranslation, combined with the material incorporated in Part I, would furnish an excellent reader and prose manual.

Much care has been expended on the Vocabulary. The derivation and formation of each word, as far as known, are given, followed by an English equivalent based on its derivation, and by typical meanings acquired through its use by various authors. The book is attractive and clear in typography, and contains good maps of Italy, Greece, and Rome in the time of the Republic. It is a distinct addition to school aids in teaching exact study of form and structure, and in rousing the literary spirit.

ROBERT ARROWSMITH

TEACHERS' COLLEGE, NEW YORK

XI

EDITORIAL

There have been many speculations and not a few expressions of opinion as to the effect of the existing business depression on college attendance this autumn. It has been thought that the result of the recent financial crisis might be that many young men and women would have to give up their college careers when begun or in contemplation. In order to substitute fact for fancy the editor of the EDUCATIONAL REVIEW has secured some statements that are printed below, from officers of leading universities and colleges. Professor James of the University of Pennsylvania advances the theory that college attendance is increased by depressions in the financial and commercial world, for reasons that he gives. This theory is also supported by Professor Van Amringe of Columbia, whose careful observations extend over a period of more than thirty years. The official opinions, as received, are given below. It will be seen that the chief effect of the hard times has been to check an increase of attendance, but not to prevent it entirely.

UNIVERSITY OF PENNSYLVANIA—"Without wishing to speak too confidently as to the facts, it is a favorite idea of mine that financial depression, where it has not continued for too long a time, is rather favorable than otherwise to an increase of attendance at higher institutions of learning. I remember Professor Conrad of Halle, who is perhaps the best living authority on university statistics in Europe, telling me some years ago that periods of financial depression had been regularly marked in Germany by an increased attendance at the universities. I think that the year 1873 marked, generally speaking, an area of expansion in attendance at our higher schools, if we use that term in a liberal sense. And I am inclined to think that the long period of depression which followed it, though it was long enough continued to seriously affect the resources of many families which were in the habit of sending their boys to college, did not prevent but rather assisted in the more than normal growth of attendance at the higher institutions.

"I should say that the effect of such financial depression as we have had this last summer, might be different on account of the different regions from which the various institutions draw their students. Financial depression in cities means an increasing difficulty for young fellows seventeen, eighteen, and nineteen years of age to find opportunities to enter business houses. Each year a large number of young men who are quite prepared,

or very nearly prepared, for college drift off into business occupations, and when they find these avenues closed, they are very likely to go to college rather than to remain idly at home.

"In the country, of course, the case is slightly different, as young men can nearly always find something to do on the farm to enable them to earn their board and clothes, even though the general business conditions of the country are very bad; while the young fellows in the villages and cities are absolutely without opportunity of employment in the presence of closing mills, factories, and breaking banks and business firms.

"On the whole, I should be surprised to find that the attendance at the colleges is smaller this autumn than last, and I should not be at all surprised to find that in many instances it is not only larger, as one might perhaps expect owing to the growing population of the country, but that it is larger in proportion to the population.

"Professor Conrad accounted for the increase of attendance at the universities in Germany, during periods of business depression, partly on the ground of increasing difficulty in the way of finding employment in business careers; partly on account of the increasing attractiveness of the permanent and salaried positions to which the university career leads as compared with the uncertainty characteristic of business in times of depression. Of course, this latter consideration would not have so much force with our young men as with the Germans, owing to the fact that our university training does not stand in any immediate relation to the public service of the country; but I do not doubt it has its effect here also.—EDMUND J. JAMES, Professor."

HARVARD UNIVERSITY—"Although full registration figures have not been prepared yet for the University, it is evident that good gains will be made in spite of the hard times.

"The Law School and Medical School will show losses, but the explanation need not be looked for in financial conditions. Both schools have adopted new requirements for their degrees which were expected to cause falling off in numbers.

"The Graduate School, College, and Scientific School all show large gains, and the number of new graduate students from other colleges is especially conspicuous. The actual registration on October 19th, is as follows:

Department.	*No.*	*Gain.*	*Loss.*
Graduate School,	238	32	..
College,	1651	53	..
Scientific School,	271	90	..
Divinity "	50	9	..
Law "	345	..	49
Medical "	404	..	47
Veterinary "	49	10	..
Dental "	59	8	..
Bussey Institution,	8	2	..
		204	96
		96	
		Net gain—108	—

—FRANK BOLLES, Secretary of Harvard University."

JOHNS HOPKINS UNIVERSITY—"At present there are a few signs that young men are deterred, especially in the Southern States, from coming here this year by reason of the financial stringency, but, as a whole, our numbers are almost exactly what they were last year.—D. C. GILMAN, President."

UNIVERSITY OF MICHIGAN—"In respect to your inquiry, I shall have to say that it is too early for us to give an answer of any consequence, because the students in the West always have an unhappy way of straggling in for a month or two. I had supposed that the financial stringency would seriously interfere with our attendance. At present it appears as though it would affect us less than I had feared, but I have no doubt that a considerable number of students who would have come in prosperous times are kept at home. Later in the year I may be able to make some more definite statement to you.—JAMES B. ANGELL, President."

PRINCETON COLLEGE—"Our entering class will fall about forty short of last year's. This, we think, is mainly due to financial troubles, though we are not sure there were not other reasons. Of those who were here last year, and of those admitted in June, there have been full twenty who stated in correspondence that financial difficulty prevented them from coming this year. Others who fail to appear have not given their reasons.—H. N. VAN DYKE, Registrar."

UNIVERSITY OF VIRGINIA—"The effect of the financial depression has been to suspend the normal growth in our attendance, which is about ten per cent. annually. Our numbers are only a little less than last year and may yet equal last year's registration (547); but under usual conditions we should have risen to 600.—WM. M. THORNTON, Chairman of the Faculty."

UNIVERSITY OF NEBRASKA—"The attendance at the University of Nebraska is greater than at this time last year, and we have no reason for supposing, from the attendance, that the financial depression has had any effect on our registration.—MABEL TUTTLE, Executive Clerk."

VASSAR COLLEGE—"Although I cannot give accurate statistics in reply to your question, I shall be pleased to make the following general statements in regard to the facts as they have been shown by the correspondence.

"Of the new students definitely registered July 1, about seventy-five withdrew. Of these, the majority gave financial difficulty as the reason, many asking to have their names transferred to the list of applicants for entrance in 1894, hoping to be able to come a year later. Only ten or twelve of the former students who did not return this fall gave as their reason money stringency.

"Perhaps I ought to add that, notwithstanding the large number of withdrawals, Vassar College is full to overflowing, some of the students being obliged to live in cottages in the neighborhood.—ELLA MCCALEB, Secretary to the President."

CORNELL UNIVERSITY—"I should say that in general the financial depression in the country has not materially affected attendance here. Of course we do not know how far intending applicants have failed to appear

for this reason. But our records show a decided increase over the registration of last year, not only in the entering class, but in the numbers of those admitted to advanced standing and in the graduate department. So far as the correspondence of the Registrar's office and my own office is concerned, we recall only three or four cases of actual withdrawals for financial reasons, while there have been some cases, to offset these, of persons arriving who discovered at the last moment that they could, after all, make arrangements to come. I should say then on the whole that, so far as we are concerned, we should not infer from any indications at this time that there had been any financial depression in the country at all. But I hear that the students are not spending money as freely as in the past. This would seem to indicate that in some cases parents are keeping their boys at college at a sacrifice, in spite of the temporary stringency.—H. S. WHITE, Dean."

YALE UNIVERSITY—"The President desires me to say that so far as he is informed no particular result is apparent here from the state of things in the country.—F. B. DEXTER, Secretary."

UNIVERSITY OF WISCONSIN—"It is not easy to judge as to how far the attendance at this University has been influenced by the panic. Our attendance is a little larger than that of last year. The number in the entering class exceeds that of last year by about thirty. We know, on the other hand, that a very considerable number have been kept from the University by the financial stringency. I have no doubt our attendance would have been largely in excess of that of last year had not the hard times come upon us. As we know that many of our older students found it impossible to return, we may fairly presume that a still larger number were prevented from beginning their course.—C. K. ADAMS, President."

By the death of Benjamin Jowett not only Balliol College and the University of Oxford, but the world's higher education, lose one of their most inspiring characters and most potent forces. As theologian, for his essay "On the Interpretation of Scripture" was forceful and independent enough to lead to his trial for heresy; as Regius Professor of Greek, for his translations of Plato, Aristotle and Thucydides are at once monuments of classical scholarship and evidences of rare philosophical insight and literary power; and as Master of Balliol, for his influence in the University of Oxford was almost unlimited and his educational ideals of the highest and truest—Dr. Jowett has left his mark on the educated minority of the English-speaking race. Two generations of students have sat at his feet, and he could truly say, in the dedication to his monumental translation of the dialogues of Plato, that for fifty years his pupils had been his best friends. His memory will long be revered by those who have been inspired by his personality and in-

structed by his wisdom. Mr. George W. Smalley admirably outlines Dr. Jowett's work in the following paragraphs:

"The death of the Master of Balliol is the greatest loss which the higher education in this kingdom has sustained for a generation. Professor Jowett was pre-eminently a great teacher and a great college and university administrator. To overrate his services to Balliol and to Oxford would be difficult. To describe them in detail would require a volume; but he was the impersonation of that modern influence, and of those modern tendencies, the result of which has been at the same time to broaden and to liberalize university teaching. The growth of Balliol as a college is his work. The movement, or the working out of the movement, for the extension of university facilities, for what may be called in a high sense the popularization of the university, is largely his work. He had broad views and unwearied energy, devotion and generosity. He had sagacity also, and knew how to deal with men and with the world. Never a great scholar, in the technical sense, he made scholarship and true learning the ideal and the realized ideal of thousands of pupils. He was liberal in everything, in religion, in politics, in life. It was a genuine liberalism which followed principles, not men.

"He was a Liberal who refused to surrender his convictions at the bidding of a party leader, and he remained a Unionist, but he never sought to be conspicuous in politics. The Church, the college, the university—to them he gave himself. He was an unique figure in all three, and he will long survive in the affection of those whom he trained, and through them—for they comprise many of the ablest and best of a younger generation—he will continue to mold English thought and action."

As this issue of the EDUCATIONAL REVIEW reaches its readers the Committee of Ten, appointed by the National Educational Association to study the subject of a curriculum for secondary schools and to report upon it, are about to assemble at Columbia College to prepare their report. No committee appointed in this country to deal with an educational subject has ever attracted so much attention as this one, and everywhere confidence is felt that the result of its deliberations will be wise and practical. It is not too much to expect that the leading colleges and the best secondary schools will be guided by its recommendations; that in consequence a long step will have been taken toward providing this country with something like a systematic organization of secondary education. Every branch of the educational system, higher and lower, will feel the good effects of this long desired reform.

While there is a good deal of theoretical discussion going on as to raising the standard for academic degrees, not much that

is practical has been accomplished. It is therefore interesting to learn that the Cumberland Presbyterian Inter-Collegiate Association, at its recent meeting at Lincoln, Ill., appointed a committee to recommend action concerning the conditions upon which any degree may be conferred by the institutions composing the Association. The Committee consists of Chancellor Nathan Green of Cumberland University, President Alfred B. Miller of Waynesburg College, and President William H. Black of Missouri Valley College. The Association was formed with a view to mutual helpfulness and co-operation, and its organization has been approved by the General Assembly. It is expected that it will become so efficient as to determine the conditions and control the issuance of all degrees by the colleges under the supervision of the Cumberland Presbyterian Church. It is needless to say that its primary aim is to raise the standard and to prevent the continued prostitution of masters' and doctors' degrees.

Colonel Parker's vigorous onslaught, in this issue, on the system of departmental teaching in grammar schools seems to proceed upon the hypothesis that the teacher of each subject will be permitted to develop his methods and material as he alone chooses, and with no reference to the rest of the curriculum. But this is simply setting up a man of straw in order to knock it down. No superintendent or principal worthy of the name would introduce the departmental system without minimizing its possible disadvantages by careful organization. There is no good reason why all of the teachers of a school cannot and should not act as a unit, studying every pupil's individuality and correcting each other's idiosyncrasies and excesses of zeal. The mere recital by Colonel Parker of the subjects that must be taught in the elementary school curriculum ought to make it perfectly plain that they must be distributed among several teachers. No one person can possibly have more than a mere smattering of all these subjects. It too often happens, as a result, that the poor children are treated to a formal process of discipline that is theoretically correct, but given a material content that is not only thin but false. For this very reason the complaint is made, and justly, that school children often "know a great many things that are not so." Colonel Parker is himself too accurate an educational observer to deny this.

Another amusing, but at the same time serious, effect of the neglect of subject-matter consequent upon the recent revival of interest in formal educational procedure, is the rise of educational prophets and seers all over the country, who are themselves wholly without anything that can be called a liberal education, or indeed without scientific knowledge of any kind. Some of these persons are not wholly unconnected with institutions for the education (*sic*) of teachers. Colonel Parker knows some of them quite as well as the EDUCATIONAL REVIEW does.

It is strange, too, that Colonel Parker does not see that the superintendents who told him at Boston that drawing, as taught, is not educative, were bringing a severe indictment against themselves. It is their business to see that it is made educative; and if this cannot be done while special teachers of drawing are employed, the first place to look for the seat of the difficulty is the superintendent's office.

The visit to this country during the past few months of so many distinguished foreign scholars has been of great value both to us and to them. We have had the benefit of their criticisms and suggestions as to our educational system and institutions, and they in turn have returned with a largely increased knowledge of America and its civilization. Many things familiar to them at home have been missed here; some other things, not so well known in Europe, have been found here in great abundance. Almost without exception, however, these gentlemen have been amazed that our strongest and most cultivated men are not the most potent leaders of public opinion. We exalt rather mediocrity and the commonplace, and give comparatively little heed to trained intelligence in all matters of public concern. Perhaps our distinguished visitors would indorse the opinion of the late Lord Sherbrooke that "no one doubts democracy has the will and power to seek its true interests; the misfortune is that, when those interests turn on considerations in the least abstract or refined, democracy does not know what its interest is."

During the month of October Williams College and Cornell University have celebrated important anniversaries; for the

old Berkshire College now numbers a century of years of life, and the young New York university glories in the strength and promise of its five-and-twenty years. The service of Williams College to the country has been long and honorable. Its roll of alumni is a roll of distinction and of honor. It has never wavered in its educational ideals, though its methods and instruments for their attainment have grown to meet new needs and new demands. It has never yielded one iota to the false and delusive notion that every college should aim to be a university. Wisely and well it has used its endowment for the liberal education of its students. It has trained hundreds of high-minded gentlemen for the world's work, and higher praise than that cannot be given. Every teacher and every good citizen wish Williams Godspeed for the future, for the college of Griffin and of Mark Hopkins is one of the most precious possessions of the American people.

Cornell was called by its plan and scope to a totally different field of labor. Not that to give the liberal education of a gentleman is not an important part of its activity, for it is; but because it was founded in the deliberate attempt to provide a training in all the arts and sciences, technical as well as others. Cornell has rapidly developed a strong group of technical schools and a vigorous university life, as well as a college. It has been fortunate in its young men. Wheeler, Hale, Hart, H. S. White, Crane, Tuttle, and their associates would constitute a university if left alone on a desert island. Scholarship, enthusiasm, and singleness of purpose such as theirs have made Cornell an enviable reputation on two continents. Cornell's danger, like that of almost every other American university except Harvard and Johns Hopkins, is that the strong and growing technical schools may so far overshadow the *Philosophische Facultät* that true university development will be checked or stopped entirely. Most American university presidents and trustees, who are coming to be recruited more and more from the ranks of men of affairs, seem blind to this danger. No group of technical schools, however reputable and numerous, and no college, even though it have elective or otherwise differentiated courses of study, can ever constitute a university. The history of education, like the history of natural science, has settled some things.

Thomas F. Donnelly, the news of whose death has been received with unfeigned sorrow by thousands of teachers throughout the country, was a character quite unique in the educational world. On one side he was in touch with the great schoolbook publishing interests of this country; on another side he stood for what is best in schoolbook authorship; and on still another, he was in the closest sympathy with every effort to improve the schools and to elevate the teacher's profession. That he succeeded in commanding the complete confidence of the publishers with whom he was connected, in winning the respect of authors, and in drawing to himself the undisguised affection of many teachers, is sufficient evidence that he was a man of rare gifts of mind and rare traits of character.

When Mr. Donnelly was fifteen years of age the Civil War broke out. Fired by enthusiasm to fight against slavery and for the Union, he ran away from his home in Ireland to enroll himself in the Northern army. From 1862 to the close of the war he fought on the side of freedom, not merely with the bravery of the soldier but with the holy zeal of the crusader. When in after years he connected himself with a struggling publishing house, whose business he aided so powerfully in raising to colossal proportions, his life was actuated by the same stern sense of duty, the same striving for what is right and just that had led him, when but a child, to part from home and friends and offer his sword to the armies of the republic.

Had Mr. Donnelly confined himself to one line of action he would, in all human probability, have achieved both fame and riches. Had he devoted all his energies to the amassing of wealth, his great talents for business would assuredly have made him successful. Had he given his life to authorship, his refined tastes, his keen appreciation of the beautiful in nature and in art, his intense love of knowledge, particularly historical knowledge—and all these traits are strongly marked in the few essays he made in literature—would surely have raised him to a high rank among writers. Had he pursued the work of teaching, his "intuitive sense of consonance and propriety," his keen discernment of character, his faculty of luminous exposition, his wonderful gift for loving and being loved, would as certainly have placed him among the great teachers. Better for himself, perhaps, had he narrowed the sphere of his activities. But as it was, his work and his life have borne fruits

that will never perish. From him have radiated influences that make for righteousness. The world at large, though it is a better world because he lived, will soon forget his name; but no associate, no teacher who ever knew him or came under his influence, will cease to revere the memory of Thomas F. Donnelly.

Professor Sully, the eminent psychologist, has requested teachers and parents in England to supply him with the records of their observations of the child mind. The records of Preyer, Perez, and others, of the development of individual children, are invaluable, but a consistent psychology of the infant mind can be developed only from the accumulation of vast numbers of facts. The EDUCATIONAL REVIEW takes pleasure in laying before American teachers and parents the classes of facts Professor Sully desires, and will be glad to forward to him any material sent for the purpose:

1. Under *Attention and Observation.*—Illustrations of the special directions of early Attention and Interest (in looking, touching, etc.), and of the gradual widening of the field of observation. Instances of specially exact, as well as of hasty and inexact, observation.

2. Under *Memory.*—Earliest manifestations of memory in recognizing persons, etc. Facts going to show what things the child remembers best. Memory for out-of-the-way facts, insignificant details, etc. Examples of strength of verbal memory in the child, as in noting the introduction of new words in the repetition of a familiar story or a poem.

3. Under *Imagination and Fancy.*—Instances of anthropomorphic fancy, child-myth, and personification of nature. How the child spontaneously fills up the unknown in space and time. Instances of apparent falsehood resulting from a vivid imagination. Imagination as interfering with observation and producing "illusions of sense."

4. Under *Reasoning.*—First appearance of curiosity about the origin of things, of the child himself, of the Deity, etc. Childish puzzles or the things which appear strange and set him thinking (*e. g.*, nature of dreams, the fact of his own previous non-existence, birth, etc.). Characteristic modes of childish explanation. How the child translates our explanation of things, and generally puts his own childish meaning into our words (*e. g.*, in misapprehension of descriptions, in misapplication of rules of conduct).

5. Under *Language.*—First use of articulate sounds, characteristic omissions, alterations, and transpositions of sounds in repeating words (*e. g.*, in use of "klam" for perambulator). Order of acquisition of different sounds. Invention of new word-sounds (*e. g.*, "mum" for eatable). Original application of common words (*e. g.*, in calling the panting of a dog "puff, puff").

6. Under *Pleasure and Pain.*—First characteristic manifestations of pleasure and displeasure (smiling, frowning, etc.). Instinctive and acquired likes and dislikes for persons, animals, toys, etc. Favorite modes of amusement.

7. Under *Fear.*—First manifestations of fear, more especially of the dark, of animals, of big moving things, as the sea, etc. Any facts bearing on the question whether such fears are instinctive, or are due to individual experience and to the suggestions of others.

8. Under *Self-feeling.*—Illustrations of childish feeling for self. Instances of self-pity, self-caressing, etc. Directions of childish vanity (dress, display of strength, etc.). Jealousy, how excited. Manifestations of a feeling of property in toys, etc.

9. Under *Sympathy, Affection.*—Examples of early feeling toward animals and human beings as bearing on question of innate sympathy. Facts illustrating the so-called cruelty of children (as pulling flies to pieces). Special provocatives of pity (*e. g.*, sight of dead animal).

10. Under *Artistic Taste.*—First crude manifestations of taste. Special preferences in the matter of colors, forms, rhythms of melody and verse, etc. Facts illustrating children's ideas of "prettiness," "grandeur," etc. First manifestations of laughter, how provoked. First clear indications of a sense of the comical or ludicrous in children.

11. Under *Moral and Religious Feeling.*—Earliest known examples of respect for authority (*e. g.*, ceasing to cry when spoken to in firm, authoritative tone). First exercise of judicial function by the child in scolding (or commending) others or himself. Facts throwing light on child's first conceptions of right and wrong. Illustrations of crude feeling of justice in little children. What especially excites a feeling of being injured or wronged. Illustrations of moral sensibility and of callousness.

12. Under *Volition.*—Imitation of others in words, gestures, etc. Illustrations of the effect of others' verbal suggestions on childish action. Examples of self-will, of defiance of commands. First manifestations of hesitation in acting and self-restraint.

13. Under *Artistic Production.* — Spontaneous dramatic invention ("make-believe") in play. Original manual construction (building with bricks, etc.). Invention of stories. First drawings of animals, men, etc. (with facsimiles if possible). Noticeable grades of progress in these spontaneous drawings.

Educational circles in England have been considerably agitated by the statements and arguments set forth by Dr. Clement Dukes, the Medical Officer of Rugby School, in a paper entitled, "Work and Overwork," read at the recent Oxford Conference of the Teachers' Guild. He argues forcibly against excessively long hours of school work and long recitation periods, particularly for young children, against the over-pressure entailed by preparation for examinations, and against home lessons and holiday tasks, and in favor of fre-

quent breaks for relaxation in school work and of giving longer time to meals and sleeping. He suggests the following normal scale of work:

From	5	to	8	years	of	age,	12	hours	of work	per week.
"	8	"	10	"	"		18	"	"	"
"	10	"	12	"	"		21	"	"	"
"	12	"	14	"	"		25	"	"	"
"	14	"	15	"	"		30	"	"	"
"	15	"	16	"	"		35	"	"	"
"	16	"	17	"	"		40	"	"	"
"	17	"	18	"	"		45	"	"	"
"	18	"	19	"	"		50	"	"	"

After the age of 14, Dr. Dukes's estimate of time for work seems quite excessive. Not so, however, his estimate of the time to be devoted to sleep:

Under	10	years	of	age,	11	hours	per	day.
"	13	"	"		10½	"	"	
"	15	"	"		10	"	"	
"	17	"	"		9½	"	"	
"	19	"	"		9	"	"	

On one test of a child's physical condition Dr. Dukes lays particular stress—his continued increase in weight. The application of this test would, as the London *Journal of Education* points out, revolutionize the management and methods of not a few schools. If every pupil were periodically weighed and a record kept of his weight, and if this information were conveyed to parents together with other records of the pupil's progress each month, a standard would be set up by which to estimate whether the effect of school work on the physical condition were prejudicial or the reverse.